From the Light of Luxo
The New Worlds of the Computer-Animated Film

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FROM THE LIGHT OF LUXO: THE NEW WORLDS OF THE COMPUTER-ANIMATED FILM

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Abstract

Emerging at the intersection of feature-length animated cinema with computer-generated imagery (CGI), and preceded by a cycle of preparatory shorts released during the 1980s, the computer-animated film has become the dominant form of mainstream animation. But while the field of animation studies has expanded dramatically in the last twenty years, reflective of increased levels of academic interest in the subject, the computer-animated film as an example of feature-length narrative cinema remains rarely investigated. This research argues that computer-animated films, including their continued evolution and mutation, can be critically evaluated through the rubric of genre. An approach is developed which elaborates upon their unique visual currencies and formal attributes, reconceptualised and organised as a generic framework that supports the study of computer-animated films as a new genre of contemporary cinema. This thesis is therefore centred on locating where the features of this genre may reside, individuated across three chapters concerned with issues of fictional world creation, performance and animated acting, and comedy. These subjects have been identified for their significant, and often highly problematic, relationship to traditions of animated filmmaking. Each chapter sets out to situate the computer-animated film within these traditions, before pursuing fresh lines of enquiry that target directly it's determining generic codes, narrative conventions and common aesthetic tropes. Informed throughout by focused textual analysis of individual computer-animated films, the genre is discussed and debated through its relevant connections to a variety of topics. These include cinephilia and intertextuality, anthropomorphism, junk art, puppetry and the Western tradition of performing objects, film sound theory, narrative literary theory, and seventeenth-century Mannerist art. Animatedness is a term that is developed across the thesis, invoked to promote the key specificities of this new digital cinema and the richness, energy and vigour of its film worlds. This thesis is framed by the question of

the particular ‘animatedness’ of computer-animated films, and my research reveals the distinct terms and novel perspectives through which this otherwise undiscovered genre of contemporary film can be examined.

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Introduction: Animating the Boulder

The rise of the computer-animated film

> On the screen, a short film showed an oversize golden sun hanging on the horizon while glistening waves caressed a deserted beach. Another depicted a beach chair dragging itself across the sand, dipping an aluminium toe in the water and timidly scampering away. Still another presented two Luxo desk lamps playing a friendly game of catch, stretching their springy arms and butting a rubber ball with their warm, cone-shaped heads. To the audience of 6,000 gathered last week in the Dallas Convention Center Arena, these final images were irresistible. The crowd had greeted some earlier offerings with hoots and good-natured catcalls. But when the Luxo lamps appeared, bathed in each other's light and seemingly imbued with human emotions, the hall burst into prolonged and enthusiastic applause.[1]
> ----- Philip Elmer-DeWitt, "Computers: The Love of Two Desk Lamps"
>
> We don't roll many boulders except in Road Runner cartoons. [...] Since I'm in the business to enjoy myself, I wouldn't call on a computer to animate my boulder.[2]
> ----- Chuck Jones, Warner Bros. animator, speaking in 1969
>
> Why, you don't even know who you are, do you?
> ----- Stinky Pete to Woody the Cowboy, *Toy Story 2*

Emerging at the intersection of feature-length animated cinema and computer-generated imagery (CGI), and preceded by a cycle of preparatory shorts during the 1980s, feature-length computer-animated films have become the dominant form of mainstream animation. The rapid ascendency of computer-animated filmmaking has prompted the progressive phasing out of traditional cel-animation methods, with digital technologies having now dislodged the hand-drawn style as the animated film's principal language. The abandoning of cel-animation was widely greeted with a degree of scepticism among both critics and animated practitioners alike, and signalled what John Canemaker called the end of an "indigenously American contribution to the international art form of animation."[3] But the arrival of the computer-animated film into filmmaking practice has since been critically recognised for the positive contribution this animated form has made to the fortunes of the U.S. animation industry. Paul

Grainge, for instance, has argued that the first wave of popular computer-animated blockbusters inspired an animation "revival."[4] Terms such as "rebirth," "rediscovery" and "renewal" have also been employed by scholars to describe the profound impact of digital technologies upon animated features during the 1990s. There has certainly been an exponential growth in the number of animation studios involved in the production of feature-length computer-animated films. The market response to the release of *Toy Story* on 22nd November 1995 was, as Scott Kirsner points out, the expansion of an animation industry almost immediately populated by "would-be Pixars"; a reference to the creators of *Toy Story*, Pixar Animation Studios. A number of companies, facilities, divisions and subsidiaries soon emerged, making the transition from visual effects companies offering "customized services on a contractual basis to major clients," to those specialising in computer-animated film production.[5]

With the gradual expansion of the computer graphics community, the production of computer-animated features has never been easier. Technical innovation, software availability, workforce expertise and augmented computer power has enabled computer-animated films to be produced more rapidly, efficiently and cost-effectively. The economy of production afforded by new digital technologies was one of the many reasons that the Disney studio turned to computer-animated filmmaking after its forty-fifth (and, at that time, final) cel-animated feature *Home on the Range* (2004). Shifts from traditional techniques to exclusively all-digital animation were also undertaken by DreamWorks Animation (a division of the DreamWorks SKG Studio), Crest Animation Productions and DNA Productions. As DreamWorks co-founder Jeffrey Katzenberg put it, "traditional animation is a thing of the past."[6] British animation studio Aardman, whose reputation had been founded upon stop-motion 'claymation' techniques pioneered in *Chicken Run* (2000) and *Wallace & Gromit: The Curse of the Were-Rabbit* (2005) also entered the computer-animated film market in partnership with

DreamWorks for *Flushed Away* (2006), and then again with their second feature *Arthur Christmas* (2011) in collaboration with Sony Pictures Animation. By 2006, several journalists were suggesting that, within the U.S., the computer-animated film market may be reaching its saturation point, only twenty years after the first digitally-animated short, Pixar's *Luxo Jr.* (1986). This unexpected congestion was widely noted in the Hollywood trade press, including *Screen International* and the *Hollywood Reporter*.[7] In *Variety*, Ben Fritz and Dave McNary pointed out that the thirteen computer-animated films due for release in the U.S. during 2006 was a "record so out of proportion to recent years that marketers are wondering if the business has the capacity to absorb them all."[8] But the positive critical reception of computer-animated films quickly alleviated any concern over their projected over-supply within the Hollywood entertainment industry. Film scholar Kristin Thompson, for example, suggested the anxieties expressed by studio executives and critical commentators over the 2006 surge were surprising. Thompson argues that computer-animated films remain among the "best work" being produced by the mainstream Hollywood film industry today, and describes them as one of the most popular, vibrant and critically lauded cinematic forms currently circulating in the global film market.[9]

Computer-animated films continue to be produced and distributed in countries such as Spain, Germany, Argentina, Hungary, Japan, Brazil, Turkey, Holland, India and with the release of the twenty minute *Buz-e-Chini/The Goat* (2012), Afghanistan. Richard Neupert considers French computer-animated films such as *Renaissance* (2006)—a black and white, futuristic science-fiction feature—have redefined animation as "economically important, aesthetically vibrant, and culturally crucial to France's persistently impressive national cinema."[10] For example, the U.S. computer-animated films *Despicable Me* (2010), *The Lorax* (2012) and *Despicable Me 2* (2013) were all produced at the French visual effects studio Illumination Mac Guff, an animation

department purchased in 2011 by California-based production company Illumination Entertainment. Computer-animated films have also renewed studio interest in feature-length animation over the last twenty years on account of both their popular and critical appeal. Highly-profitable, family oriented computer-animated films consistently attract strong audiences and—since *Toy Story* became the top grossing film of 1995—have continued to perform successfully at the U.S. box office. The healthy commercial reputation of computer-animated films has made them increasingly desirable investments. Shilo T. McClean has argued that their economic viability has prompted a "new willingness for studios to back long-form animation" previously considered to be "too expensive and of a limited market."[11] McClean adds that the ongoing achievements of the computer-animated film in the area of DVD/home-video releases have only extended their lucrative commercial and consumer value. The particular strengths of the American animation industry lies in its strong studio infrastructure and quality of creative personnel. Beyond the name recognition of John Lasseter and Jeffrey Katzenberg, computer-animated films have proven a magnet for attracting established, high-profile directors from live-action film into animation for the first time. The involvement of eminent figures such as Robert Zemeckis (*The Polar Express* (2004)), George Miller (*Happy Feet* (2006)), Gore Verbinski (*Rango* (2011)) and, more recently, Steven Spielberg and Peter Jackson (*The Adventures of Tintin: The Secret of the Unicorn* (2011)) has afforded a whole new level of artistic credibility to feature-length animation. Coupled with the computer-animated film as a commercial and artistic force, the digital rejuvenation of U.S. animation has transformed the American cartoon by following something of a Classic Hollywood sensibility. If Golden Age filmmaking in the studio-era had the "Big Five" and the "Little Three," then the computer-animated film in contemporary Hollywood has something of an inverse structure. Its "Big Three" consist of Pixar, DreamWorks and Blue Sky Studios, which originated in 1987 as a

subsidiary of Twentieth Century Fox. The loyalty that many employees have to specific animation facilities has provoked further comparisons with studio-era filmmaking. Mark Feeney comments that the Pixar studio's operations in particular are not far from "Hollywood of six decades ago," insofar as the authorial signatures of individual expression are permitted to circulate within stringent industrial parameters.[12] Pixar has outwardly promoted itself according to a Classical studio template, emphasising close creative and long-term relationships with personnel, lack of migration between studios, and a loyal stable workforce. Rivalries between Pixar and DreamWorks have been widely-documented in hagiographic corporate histories, and their creative enmity has also invited comparison to the fruitful Golden Age competition between Walt Disney and Warner Brothers. Kathleen McDonnell remembers that the simultaneous release of DreamWorks' *Antz* (1998) and Pixar's *A Bug's Life* (1998) "saw the start of what was termed by Animation Wars."[13] This "war" was publicly fought at the 2002 Academy Awards in the category for Best Animated Feature, a prize created to honour the high quality of computer-animated films and to recognise their revitalisation of the U.S. animation industry. Describing the competition between DreamWorks' *Shrek* (2001) and Pixar's *Monsters, Inc.* (2001) for the category's inaugural prize, Paul Karon anticipated that within the Hollywood film industry the future of animation "is probably healthier than many have predicted."[14]

It is difficult to comprehensively quantify the good "health" of mainstream Hollywood animation, and to critically explain what is not only a mainstay of contemporary filmmaking but now a mass-cultural phenomenon. When a Buzz Lightyear action figure spent fifteen months orbiting the Earth aboard the Discovery Space Shuttle in May 2008, his catchphrase "to infinity and beyond" became dramatically realised. Ours is also a Western moving image culture saturated with images and icons from a variety of computer-animated films, their widespread popular

appeal even recognised through references made to them by U.S. hip-hop and R&B subcultures. The elderly protagonist of Pixar's *Up* (2009), Carl Fredericksen, is currently an ambassador for the Hear the World initiative, while the eponymous green ogre Shrek has been the spokesperson for the Department of Health and Human Services' (HHS) obesity campaign across America since 2007.[15] But the reputation and regard of computer-animated films among both critics and audiences demands further exploration, because as Barry Langford points out it is "enormously difficult to compute popularity."[16] The central argument of this dissertation is that the feature-length computer-animated film constitutes a unique, but as yet undetermined and unrecognised, genre of contemporary cinema. But what is at stake in examining computer-animated films in such genre-based terms? Andrew Tudor has argued that "to call a film a 'Western' is thought of as somehow saying something interesting or important about it."[17] Performing genre analysis, and determining the genre status of computer-animated films, is not enough to automatically create "something interesting" about them. On the contrary, computer-animated films are compelling and arresting enough without being grouped in this way. However, the recognition of them as a genre does not run counter to the identification of their singularity, or violate their formal specificities. Genre provides a critical framework for better understanding their content, style and formal codes of communication, and to account for the multitude of pleasures contained within their narratives. The establishment of a meaningful computer-animated film genre groups multiple films together, creating what Langford has called an "orderly genericity."[18] Genre enables the computer-animated film to be studied for their orthodoxies and conventions, viewed relationally rather than in isolation.

While computer-animated films have not yet been treated as a genre, they have attracted diverse kinds of critical attention and theorisation. Jennifer Barker, for instance, writes that the nostalgic charm of *Toy Story* is inextricably linked to both its

"tactile allure" and "surface of its skins." She argues that the slick, pristine computer-generated imagery beckons our fingers, suggesting the plastic surface of the toys' manufactured shell triggers spectators' sense of touch.[19] Alongside that of fellow phenomenologist Vivian Sobchack (who also describes a sensuous engagement with the toys' waxy sheen), Barker's writing belongs to a longer history of film scholarship that has responded to computer-animation's impressive capacity for visual realism.[20] This focus on the digital's realistic attributes continues the work produced throughout the 1990s, which discussed computer-generated imagery as an emerging technology of persuasive realistic representation. Stephen Prince, for example, employed the term "perceptual realism" to describe the type of correspondences between virtual and non-virtual objects, and the way that computer graphics can accurately replicate the phenomena according to "light, colour, texture, movement and sound."[21] Discourses of realism also inform the animation industry's development of computer graphics. Progressions in texture and shadow mapping, the calculation of colour dispersal and the accuracy of raytracing light paths have brought a hitherto unseen sophistication to digitally-animated aesthetics. What the aesthetic detailing in computer-animated films encourages—whether it is worn textures, almost imperceptible detailing, or the viscosity of materials under disparate conditions—is an appreciation of their visual complexity. David Bordwell has argued that computer-animated films are so detailed as to "display a cinematic sophistication that fits contemporary tastes in live-action movies."[22] He contends that the depth and dimension in culinary comedy *Ratatouille* (2007), coupled with its play of light and shadow and textures adorning its "minutiae of food," manifests a detail that counters the "uniformity that CGI tends to give repetitive patterns." Delighting in its own digital details and "overstuffed" in its mise-en-scene, Pixar's film expresses a layering of individual shots that are "too busy for the eye to fully take in."[23]

The visual achievements of computer-animated films are a central concern of this dissertation. Thomas Lamarre wrote in 2006 that "a relatively stable digital look and feel has already emerged" in the kinds of digital animations such as *The Incredibles* (2004) that were, at the time, "trouncing" traditional animation at "America's global box-office."[24] Both the creative freedoms and the limitations of this precise "digital look"—what computer-animated films are able to achieve, where they can go stylistically—are governed by self-imposed regulations for production. Creative bargains with the real are regularly struck by animators, resulting in a playful compromise position bridging persuasive realist representation with the expressive possibilities of the cartoon. Scholars such as William Schaffer and J.P. Telotte describe how the computer-animated films produced by Pixar deliberately come up short with respect to realism. In this way, they raise questions about the value of the realist paradigm as it has often been applied to the analysis of computer-animation.[25] When Sobchack similarly asks "what do we want from animation?" she makes further discriminations about the "myth" of total animation, suggesting instead that computer-animation's visual regime is governed by fluctuating levels of realist representation. Scholars' negotiation of the realism or otherwise of digital imagery has prompted terms such as "photosurrealistic" being used to account for a computer-animated film aesthetic that is *in excess* of realism: that is, a compromise position combining the realistic with the not-quite-real.[26] Challenging the view that computer-animated films are universally driven by an underlying realist hypothesis, Patrick Power has envisaged a future for computer graphics in which we see a greater range of formal expression. Power finds tentative evidence of these new forms of engagement in the sound design of *Wall-E* (2008), and the Seussian exaggeration of design in *Horton Hears a Who!* (2008). "Chapter Two" of this dissertation argues that a central determinant of the look of computer-animated films is the exploitation of the virtual screen space through the

innovative viewpoints of capricious anthropomorphic characters. Attesting to the negotiation of human and non-human registers, the analysis of computer-animated film worlds in "Chapter Two" casts the animated anthropomorph on the side of world creation. It argues that characters' exploratory activities within the fictional world reframe the action and offer spectators' dynamic views of these films' impressive digital cartography. Anchoring characters to their computer-animated environments creates innovative points of access and perspectives by exploiting their industrious movements. The vibrancy of computer-animated films is further secured by the treatment of everyday objects and characters' desire to seek out treasures from its worlds' many crevices and corners. Computer-animated films rework and remake the world through inventive re-evalutions of everyday objects, including junk, waste and discarded rubbish. Closely allied to these new forms of object transformation are abrupt shifts in scale, which, I argue, contributes to the creation of computer-animated film worlds that appear highly industrious and perpetually on assignment. Computer-animated films regularly play across the poles of microscopic representation and magnification, drawing on the opportunities afforded by scale to creatively resize the pleasures of looking.

Another direction that early scholarship on computer-animated films took was to identify more closely the forms of realism animators were able to accurately simulate. Andrew Darley and Julia Moszkowicz endeavoured to move the critical discussion of realism beyond a narrow focus on the ability of the computer image to hold up a mirror to organic reality.[27] Both argued that rather than straightforwardly capturing the look of the real, computer-animated films refashion or "remediate" animated traditions with cinematic realism and photography, expressing their broader affectation for alternate lens-based media.[28] "Chapter One" registers the connections that computer-animated film have with cinematic realism in relation to their overwhelming appetite for

cinephilia. Through a volley of playful intertextual references, computer-animated films reveal their fondness for cinema as it is manifest in the behaviours and activities of outwardly cinephilic characters. The narratives of *Flushed Away* and *Wall-E*, for example, delight in the cultural status of the contemporary cinephile as one of collector or archivist, and both films' protagonists transfer their cinephilic energy in demonstrative acts of "cine-love." However, it is the attachment that computer-animated films have to cinema as a filmmaking practice that has carved new avenues for studies of digital realism.

The popular and trade press often report at length on the sophisticated levels of realism achieved in the age of heightened simulation. As Paul Ward points out, realism remains an unavoidable heuristic in the digital age given the polished glossiness and synthetic sheen of computer-animated film aesthetics.[29] For many contemporary scholars, however, computer-animated films are becoming increasingly smart about the discourses of realism that inform them, as well as their own reality effects. Greater intercessions have been made on behalf of their complex narratives that are openly self-conscious about their own spectacle of the real. Scholars such as Telotte, Alan Ackerman and Judith Halberstam, as well as Thomas Elsaesser and Malte Hagener, are confident in the technological and larger industry processes involved in computer-animated film production. But their writing has opened up a discussion of the ways realism has been co-opted into the "stuff of narration," which "catches-up" the spectator in their own "simulacrum effect."[30] Whereas Darley initially argued that *Toy Story* is "about realist and illusionary qualities, not character or plot," it has become increasingly difficult for scholars to separate form from content.[31] "Chapter Four" offers a closer interrogation of the relationship between realism and narrative by outlining the comic possibilities afforded by the pursuit of cinematic realism described by Darley and Moszkowicz. The visual achievements of photorealism—and the creation of digital

images that appear to be photographic—are actively reworked as fresh sites for comedy. Comedy is the computer-animated films' default register, an intrinsic element of their family-friendly appeal. Thompson argues that these films have a "wit and visual sophistication that is sorely lacking in many live-action films," portraying a comic verve central to their crossover appeal to adult and child audiences.[32] Michael Barrier has also highlighted how computer-animated films have "typically been sharper and funnier [...] than the writing for most recent hand-drawn features."[33] "Chapter Four" looks at how the technical realisation and persuasive simulation of photographed reality in the computer-animated film is exaggerated, exposed and upturned for comic effect. The photorealism of *Wall-E*—and the ability of the virtual camera to simulate anamorphic lenses, "cinematic perspective" and focal lengths—are the same features invoked for humorous purposes.[34] With the boundaries of identity being continually redrawn by scholars to account for the intersection of digital technologies with live-action cinema, and at a time when broader definitions of animation remain the subject of intense debate, computer-animated film comedy interrogates the genre's own illusionistic identity. Back in 2000, Darley asked of *Toy Story* "is it cartoon animation, three-dimensional (puppet) animation, live-action or, perhaps, a combination of all three?"[35] The answer is that computer-animated films use purportedly anti-illusionist humour to play with the uncertainty and ambiguity of their own images.

Alongside critical discussions of computer-animated film aesthetics, a growing body of ideological criticism has emerged distinguishing how their narratives work ideologically as reflections of the social conditions in which they have remained popular. As Florentine Strzelczyk puts it, contemporary scholarship on computer-animated films operates in an age of *Antz* "meets Adorno."[36] Ideological criticism has afforded computer-animated films increasing theoretical visibility and a greater level of critical focus across multiple disciplines. It also offers another way of approaching these

feature-length forms of narrative fiction. Computer-animated films are not ideologically innocuous forms of commercial, family entertainment, but are rich in political allegory and serve to encode certain hegemonic values. The symptomatic interpretation of these films has yielded compelling and often contentious readings that have cracked these digital texts "apart at the seams," and penetrated into the cracks which "riddle" their formal coherence.[37] These readings operate at the point of conflict between what Fred Botting and Scott Wilson have called the "shiny reflective surface of the *Toy Story* movies," and the unconscious desire to examine the perversely utopian world of the taboo or prohibited.[38] Computer-animated films have been interpreted by film scholars as allegorical expressions, or barometers, of an underlying social, political and economic problematic. They have been read as instruments of cultural pedagogy, functioning as potent examples of what Henry Giroux has called socialising "teaching machines" and popular forms of "edutainment."[39] Numerous scholars have argued that the lessons that accompany laughter reiterate normative ideologies and discourses about race, class, gender and sexuality. Yet not all ideological analysis is unambiguously critical. Richard Stamp, for instance, argues that even "insidious" ideologies drawn from the computer-animated film can also coexist with socio-political possibilities of critique, equipping children with tools to manoeuvre around racial, gender and sexual dynamics at a stage in their lives in which they are learning society's most valuable lessons.[40]

The familiar pedagogies shaping the ideological analysis of computer-animated films are those that have been applied to animated forms ever since Chilean Marxists Ariel Dorfman and Armand Mattelart's *How to read Donald Duck* first deconstructed the imperialist ideology of the Disney comic books.[41] *Shrek* and its sequels have provoked the "same old pedagogies" of gender and sexuality that Elizabeth Marshall and Özlem Sensoy argue normally come with the territory of ideological critique.[42]

Scholars have accused the *Shrek* franchise of producing camouflaged racist commentary and promoting White American rhetoric, formatted and presented as "2-hr comedic fantasies to attentive and impressionable audiences."[43] Daren C. Brabham argues that *Shrek* consistently makes palatable "troubling images of blackness" in the character of the Donkey, who is both a native and slave-figure.[44] Octavio Pimental and Paul Velázquez have similarly identified the negative portrayal of Latinos in the form of the Hispanic feline Puss in Boots in *Shrek 2* (2004). They argue the *Shrek* films permit White America the opportunity to validate its misconceptions about Black and Hispanic Americans, to bolster their claims of linguistic superiority. These provocative ideological readings commonly identify the expressive role of the voice in the narratives' contentious, insensitive reiteration of normative Western ideologies. For example, Strzelczyk argues that the angst and neuroses of Z in *Antz* is borne out by voice actor Woody Allen and his characteristic Jewishness. Similarly, for Suzan G. Brydon the "high-pitched commands" of clownfish Marlin in *Finding Nemo* (2003) contributes to the "mothering" of his character, and he uses phrases "stereotypically attributed to mothers' policing of children" ("You are in big trouble, young man").[45] In the case of the *Shrek* films, the casting of black actor Eddie Murphy and Spaniard Antonio Banderas are central determinants in the confirmation of Donkey and Puss as reflecting and reflective of contemporary cultural stereotypes. In particular, the allying of Murphy's energetic voice and quick-fire delivery with images of a Donkey (a "work animal") makes the computer-animated character, as Pimental and Velázquez puts it, "appear tasteless, offensive, and racist."[46] The value of ideological criticism is that it has spotlighted the role of the voice actor in computer-animated film performance. "Chapter Three" looks in greater depth at the vocal qualities of computer-animated film acting, and the primacy of the voice for these films' lively puppetlike screen performances. The gradual critical turn within film studies towards screen acting has pitched up the volume

of the voice in cinema.[47] The analysis of vocal performance includes a greater appreciation of inflections of tone, pitch, rhythm, metre, modulation, timbre, delivery and intonation. The computer-animated film dramatically resuscitates the voice as a performance element, and in "Chapter Three" I examine how the voice of a screen star speaks with authority by examining vocal performance in relation to character design.

The ideological critique of computer-animated films has tended to focus on individual texts and, in some more recent instances, the uniformity of ideology within works produced by single animation studios. The stakes of the $7.4 billion acquisition of Pixar by the Walt Disney corporation in January 2006 invited questions about the preservation of Pixar's "cultural authorship," and collaborative or 'peer' culture after the company's restructuring. Jerome Christensen has argued that rather than the imposition of Disney's conservative ideology onto Pixar, the merger ultimately resulted in "influence heading the other way."[48] Nevertheless, there has been little agreement among scholars over whether to collapse or preserve the rhetorical divide that separates the new "Disney/Pixar" label. Pixar have thus been identified as continuing the pro-corporate capitalist culture ideology of its parent company, as well as elements of what Steven Watts calls their "sentimental modernism."[49] One of this dissertation's lines of enquiry is how computer-animated films transcode or relay particular ideological positions, attitudes, themes, narratives and values as a wider group of films. Langford, after all, argues that a genre "by definition entails narrative, iconographic, characterological and conceivably ideological conventions."[50] To take one example, the computer-animated film's repeating journey narrative—as discussed in "Chapter One"—engages the collective mentality that Judith Halberstam has identified as part of the ideological "audacity" of recent animated features. These "Pixarvolt" films, as Halberstam defines them, are characterised by narratives advocating communitarian revolt and rebellion against corporate domination, resulting in improvised social

relationships and collective action.[51] Whereas M. Keith Booker has argued that children's films consistently promote an "individualist mind-set" in keeping with an American capitalist system, "Pixarvolt" films signify an alternate ideological message.[52] For Halberstam, *Robots*, *Finding Nemo*, *Over the Hedge* (2006) and *Bee Movie* (2007) address the unruly child through queer embodiment, the dual rejection of the family and coupled romance, and instead enforce collective states of rebellion (therefore challenging any neo-liberal "be yourself" attitude).[53]

The visual pleasure and spatial dimension of these rebellious collectives is investigated in "Chapter Two" in relation to the densely populated computer-animated film and its formal strategies of world-building. The swarms, crowds or "digital multitude," as Kristen Whissel terms it, which fill computer-animated film worlds have generally been discussed for their ideological implications for de-individualisation of mass society.[54] Strzelczyk connects the insect colony in *Antz* to a pre-fascist Weimar Republic; Steven C. Combs compares *Antz* with *A Bug's Life* according to Daoist (Taoist) thought; and Christopher Falzon observes the social and political dimension of *Antz* and its reflection of a modern totalitarian existence.[55] But "Chapter Two" explores the properties of the digital multitude as a dynamic optical effect that illuminates the scope and brevity of the fictional space. The digital population aligns the computer-animated film with the cultural impact and mainstream popularity of what have been termed by theorists as "open world" video games. However, the very formation of activist groups bound by communal activity across computer-animated film narratives ultimately mirrors Halberstam's own fresh desire to "think collectively" about them. By broadening the critical conversation around computer-animated films to implement what Barbara Klinger has termed "ideological-generic criticism," Halberstam maps these films' complex formal geography and textual system through the cinema/ideology relation.[56] The grounding of ideology within generic textuality is particularly useful

when examining the prevalence of child performers, a feature of computer-animated films to be addressed alongside star voices in "Chapter Three." Customary practice across both feature-length cel-animated cartoons and television animation has been to cast adults in the vocal roles of children. But in celebrating the rhythms of a child's unrefined speech, computer-animated films express an active ideological engagement with the pleasures of simply being young, rather than privileging any notion of growing up. As protagonist Gru utters to his adopted daughter Agnes in *Despicable Me 2*, "Never get older."

Ideological readings of computer-animated films are concerned with the politics of representation, and the inscription of cultural images, practices, attitudes and discourses within a specific film text. Ideological film theory, as Prince argues, "examines the ways in which films represent and express various ideologies."[57] To carry out ideological critique of a computer-animated film is to analyse the richness and density of meanings contained within its complex textual strategies. By examining the rhetorical devices of *The Incredibles*, for example, David Hastings Dunn makes the argument that the film "begs to be read as an allegorical tale justifying U.S. foreign policy under George W. Bush."[58] Close readings of *Monsters, Inc.* also offer the view that the film is a "clever dramatisation of the problem of declining energy supplies," raising awareness in geographical and environmental research about crafting a "future of child-friendly cities" in post-industrial societies. The wealth of ideological criticism bears out something of the emergent textualist approach that has come to replace the instrumentalist or "technicist" approach to digital imaging, which Darley identified at the very start of the 1990s as the dominant mode of thinking.[59] Towards the end of computer-animation's second decade, Maureen Furniss admitted that the majority of books written on the subject "focus on techniques, providing instructions on how to use various software packages."[60] Long-running visual effects journals and popular

magazines including *WIRED*, *Cinefex* and *Cinefantastique* continue to prize computer-animated films in these "technicist" terms, adopting and extending the informative, highly technical tone of industry-based papers routinely presented at annual events in the computer graphics calendar.[61] But as critical literature surrounding computer-animated films gains momentum in volume and scope—and as theorists from multiple disciplines become acquainted with their artistic attributes and visual qualities—the "technicist" approach has been joined by approaches that are predominantly "textualist" in focus.

Textualist approaches to film analysis are traditionally formalist, shifting focus onto a film's textual attributes and formal codes: its conventions, systems of organisation, norms and modes, and their effect on the spectator. Such approaches have a different emphasis than ideological criticism. They are less inclined towards analysis of the socio-political and historical forces shaping the text and, as Garrett Stewart argues, are "committed to more cinematographic specificity than one finds in the ideological critique of the apparatus per se."[62] With a greater accent placed on form and convention (and their refinement), textualist approaches have opened the valve on the study of computer-animated films, leading to a new emphasis on their formal vocabulary. Notable among such accounts is a more nuanced consideration of sound design, musical composition and melody, and the deft contribution of unified sound-image relations within animated storytelling (although such accounts have tended to overwhelmingly focus on Pixar's short film format).[63] As Wells writes in his account of Gary Rydstrom, the studio's regular sound designer and director of their short film *Lifted* (2006), the "quilting" of sound sets the boundaries of plausibility within a hermetic animated world. The specific physical laws governing the spectators' expectation of computer-animated film worlds are explored in "Chapter Two." As Wells demonstrates, it is the formal development of sound design and mixing at Pixar that

supports the creation of "less fantastical worlds," by jettisoning audiovisual dissonance and discord.[64] Textualist accounts have advanced the knowledge and appreciation of the computer-animated film's mode of production, creative personnel, and the methods of achieving formal outcomes. Textualism has not only helped illuminate the narrativisation of realism (as Telotte, Elsaesser and Hagener all describe), but in some instances has been instrumental in its re-evaluation. Aylish Wood, for instance, has argued that computer-animated films are not wholly powered by discourses of "encroaching realism," but by the textual inscription of their technology.[65] No longer attributable to the kinds of reality effects described by Darley and Moskowicz, computer-animated films such as *Monsters, Inc.* and *The Incredibles* momentarily convey their aesthetic specificity *as computer-animation* through scale, vicarious camerawork and depth of space. Textualist approaches ultimately promote the difference and, most importantly, the differentiation of computer-animated films, guiding an understanding of their specificity within the multifarious field of animation—with its multiple forms and techniques—but also among critical discussions of contemporary digital culture. In reframing computer-animated films as a film genre, such texts begin to acquire relative autonomy from the "techno-genre" into which they were born, and from which they might otherwise never escape.[66]

With their emphasis on a film's formal properties, purely textualist approaches have been questioned by scholars on the grounds that they are markedly ahistorical and unreflective of cinema as a social practice. However, textualist approaches need not be at odds with a parallel consideration of contextualist or historical accounts. Mark Allen Peterson argues that "Although the formal features of texts—binary oppositions, tropes, intertextualities, and so forth—cannot in themselves validate particular meanings, the close reading of texts is likely to remain significant to the anthropology of media. Texts *do* have formal features."[67] "Chapter One**"** plots the textualist trajectory for subsequent

chapters by asking similar questions in relation to film genre. Drawing on relevant genre theory, the opening chapter argues for the computer-animated film's formal codes of signification as historically and technologically contingent, informed at every turn by a host of animated and non-animated texts, but also by key developments in digital technology. This dissertation argues that the generic identity of computer-animated films emerges from the analysis of their shared formal features, and of the relationships between such elements. Qualities that seem incidental in a single computer-animated film take on greater meaning when connected to or allied with characteristics in other films. It is the consistency and repeating presence of these features that excites and enlivens the possibilities for genre. This dissertation explores how over one hundred computer-animated films—produced by different animation studios and with different creative personnel between 1995 and 2013—have crafted a specific set of expectations through the deployment of consistent, repeating textual features. To recall Damon Knight's ostensive and widely-repeated definition of the slippery genre of science-fiction, computer-animated films "mean what we point to when we say it."[68] But by employing a genre-based approach to these lively forms of feature-length narrative fiction, this dissertation brings into sharper clarity *what it is we talk about when we talk about computer-animated films*, but also why it matters that they are discussed in such genre-based terms.

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[2] Chuck Jones quoted in *Chuck Jones: Conversations*, Maureen Furniss, ed. (Mississippi: University Press of Mississippi, 2005), 21.

[3] John Canemaker, "Disney Erases Hand-Drawn Animation," *The Wall Street Journal* (August 9, 2005), accessed September 25, 2013, http://www.opinionjournal.com/la/?id=110007081.

[4] Paul Grainge, *Brand Hollywood: Selling Entertainment in a Global Media Age* (London: Routledge, 2008), 119.

[5] Allen John Scott, *On Hollywood: The Place, The Industry* (New Jersey: Princeton University Press, 2005), 96.

[6] Jeffrey Katzenberg quoted in Tom Sito, *Drawing the Line: The Untold Story of the Animation Unions from Bosko to Bart Simpson* (Kentucky: University Press of Kentucky, 2006).

[7] As *Screen International* put it, "Much has been made this year of the seeming over-saturation of studios/computer-generated titles, with critics and analysts pointing to growing movie-goer apathy," quoted in Kristin Thompson, "By Annie Standards" (December 10, 2006) in *Minding Movies: Observations on the Art, Craft, and Business of Filmmaking*, eds. David Bordwell and Kristin Thompson (Chicago: University of Chicago Press, 2011), 159.
[8] Ben Fritz and Dave McNary, "Critter Jitters," *Variety* 402, no. 7 (April 3 – April 9, 2006): 1.
[9] Thompson, "By Annie Standards," 159.
[10] Richard Neupert, *French Animation History* (West Sussex: John Wiley & Sons, 2011), 149.
[11] Shilo T. McClean, *Digital Storytelling: The Narrative Power of Visual Effects in Film* (Cambridge, MA; MIT Press, 2007), 99-100.
[12] Mark Feeney, "Back to the future," *The Boston Globe* (June 7, 2009), accessed September 25, 2013, http://www.boston.com/ae/movies/articles/2009/06/07/pixars_success_is_an_up_to_the_minute_throwback/.
[13] Kathleen McDonnell, *Honey, We Lost the Kids: Re-Thinking Childhood in the Multimedia Age* (Toronto: Second Story Press, 2005), 71.
[14] Paul Karon, "Beastly battle brewing," *Variety* 385, no. 6 (December 2, 2001 – January 6, 2002): 36.
[15] See Christian Arndt, "Plan "B" for "balloon" – or: An old man takes to the skies to find happiness," *Heal the World Magazine* 12, (2009): 51-52.
[16] Barry Langford, *Film Genre: Hollywood and Beyond* (Edinburgh: Edinburgh University Press, 2006), 19.
[17] Andrew Tudor, *Theories of Film* (New York: Viking Press, 1973), 16.
[18] Langford, *Film Genre*, 265.
[19] Jennifer M. Barker, *The Tactile Eye: Touch and the Cinematic Experience* (California: University of California Press, 2009), 44-5.
[20] Vivian Sobchack, *Carnal Thoughts: Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004), 54.
[21] Stephen Prince, "True Lies: perceptual realism, digital images, and film theory," *Film Quarterly* 49, no. 3 (1996): 27-37.
[22] Bordwell, *Making Meaning*, 231.
[23] Ibid.
[24] Thomas Lamarre, "New Media Worlds," in *Animated Worlds*, ed. Suzanne Buchan (Eastleigh: John Libbey Publishing, 2006), 131.
[25] William Schaffer, "The Importance of Being Plastic: The Feel of Pixar," *Animation Journal* 12 (2004): 72-95.
[26] Anthony A. Apodaca and Larry Gritz, *Advanced RenderMan: Creating CGI for Motion Pictures* (San Diegeo, California: Academic Press, 2000), 5.
[27] Andrew Darley, "Second-order realism and post-modernist aesthetics in computer animation," in *A Reader in Animation Studies*, ed. Jayne Pilling (London: John Libbey, 1997), 16-24; Julia Moskowicz, "To infinity and beyond: assessing the technological imperative in computer animation", *Screen* 43, no. 3 (Autumn 2002): 293-314.
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[29] Paul Ward, "Computer games as Remediated Animation," in *ScreenPlay: Cinema/Videogames/Interfaces* eds. Geoff King and Tanya Krzywinska (London: Wallflower, 2002), 132.
[30] J.P. Telotte, *Animating Space: From Mickey to Wall-E* (Kentucky: University Press of Kentucky, 2010), 204.
[31] Andrew Darley, *Visual Digital Culture: Surface Play and Spectacle* (London: Routledge, 2000), 87.
[32] Thompson, "By Annie Standards," 136.
[33] Michael Barrier, *Hollywood Cartoons: American Animation in its Golden Age* (Oxford: Oxford University Press, 1999), 573.
[34] Stephen Prince, *Digital Visual Effects in Cinema: The Seduction of Reality* (New Jersey: Rutgers University Press, 2012), 95.
[35] Darley, *Visual Digital Culture*, 84.
[36] Florentine Strzelczyk, "Fascism and Family Entertainment," *Quarterly Review of Film and Video* 25, no. 3 (2008): 208.
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[47] These include, but are not limited to, Jacob Smith, *Vocal Tracks: Performance and Sound Media* (Berkeley, Los Angeles: University of California Press, 2008) and Norie Neumark, Ross Gibson and Theo Van Leeuwen, eds. *Voice: Vocal Aesthetics in Digital Arts and Media* (Massachusetts Institute of Technology, 2010).
[48] Jerome Christensen, *America's Corporate Art: The Studio Authorship of Hollywood Motion Pictures* (California: Stanford University Press, 2012), 339.
[49] See Lee Artz, "Monarchs, Monsters, and Multiculturalism: Disney's Menu for Global Hierarchy," in *Rethinking Disney: Private Control, Public Dimensions*, eds. Mike Budd and Max H. Kirsch (Middletown, CT: Wesleyan University Press, 2005), 75-98. Steven Watts, *The Magic Kingdom: Walt Disney and the American Way of Life* (Boston: Houghton Mifflin, 1997), 104-105.
[50] Langford, *Film Genre*, 265.
[51] Judith Halberstam, *The Queer Art of Failure* (California: Duke University Press, 2011), 29.
[52] M. Keith Booker, *Disney, Pixar, and the Hidden Messages of Children's Films* (California: Greenwood Publishing Group, 2010), 175.
[53] Halberstam, *The Queer Art of Failure*, 29. By collapsing the live-action/CG film *Babe* (1995) and the claymation *Chicken Run* into the "Pixarvolt" genre, Halberstam implies that such "Pixarvolt" films need not necessarily be computer-animated.
[54] Kristen Whissel, "The Digital Multitude," *Cinema Journal* 49, no. 4 (Summer 2010): 90-110.
[55] Strzelczyk, "Fascism and Family Entertainment," 201; Christopher Falzon, *Philosophy goes to the Movies: An Introduction to Philosophy* (London: Routledge, 2007); Steven C. Combs, "The Dao of Communication Criticism: Insects, Individuals, and Mass Society," *Social Semiotics* 12, no. 2 (August 2002): 183-99.
[56] Barbara Klinger, "'Cinema/Ideology/Criticism' Revisited: The Progressive Text," *Screen* 25, no. 1 (January-February 1984): 30-44. As Langford put its, genre films are "collective, rather than singular objects." Langford, *Film Genre*, 18.
[57] Stephen Prince, *Movies and Meaning: An Introduction to Film 2nd Edition* (Boston: Allyn and Bacon, 1997), 378.
[58] David Hastings Dunn, "*The Incredibles*: An ordinary day tale of a Superpower in the Post 9/11 World," *Millennium - Journal of International Studies* 34 (February 2006): 559-562. Paul J. Tranter and Scott Sharpe, "Escaping Monstropolis: child-friendly cities, peak oil and *Monsters, Inc.*," *Children's Geographies* 6, no. 3 (August 2008): 295–308.
[59] Andrew Darley, "From Abstraction to Simulation: Notes on the History of Computer Imaging," in *Culture, Technology, and Creativity in the Late Twentieth Century*, ed. Philip Hayward (London: John Libbey, 1990), 339-64.
[60] Maureen Furniss, "Animation Literature Review," *Animation Journal* (Spring 1999), accessed September 25, 2013, http://www.animationjournal.com/books/reviews/litrev.html.
[61] SIGGRAPH (Special Interest Group on Computer Graphics and Interactive Techniques) and ACM's (Association of Computing Machinery) Multimedia Conference being most notable among such events.

[62] Garrett Stewart, *Between Film and Screen: Modernism's Photo Synthesis* (Chicago: University of Chicago Press, 1999), 319.
[63] See William Whittington, "The Sonic Playpen: Sound Design and Technology in Pixar's Animated Shorts," in *The Oxford Handbook of Sound Studies*, eds. Trevor Pinch and Karin Bijsterveld (New York: Oxford University Press, 2012), 367–386; Daniel Goldmark, "Pixar and the Animated Soundtrack," in *The Oxford Handbook of New Audiovisual Aesthetics*, eds. John Richardson, Claudia Gorbman and Carol Vernallis (New York: Oxford University Press, 2013), 213–226; Philip Hayward, "Polar Grooves: Dance, Music and Musicality in *Happy Feet*," in *Drawn to Sound: Animation Film Music and Sonicity*, ed. Rebecca Coyle (London: Equinox, 2010), 90-103.
[64] Paul Wells, "To Sonicity and Beyond! Gary Rydstrom and Quilting the Pixar Sound," *Animation Journal* 17 (2009): 23–35.
[65] Aylish Wood, *Digital Encounters* (New York: Routledge, 2007), 25.
[66] Lev Manovich, *The Language of New Media* (London: MIT Press, 2001). Techno-genre is a category that Manovich identifies as comprising computer-animation, multimedia and websites, and is one that is "just getting started" (207).
[67] Mark Allen Peterson, *Anthropology & Mass Communication: Media and Myth in the New Millennium* (New York: Bergahn Books, 2005), 119.
[68] Damon Knight, *In Search of Wonder: Essays on Modern Science Fiction* (Chicago: Advent Publishers, 1967), 1.

Chapter One: Classifying Nemo

Genre theory and the computer-animated film

> People think of animation only doing things where people are dancing around and doing a lot of histrionics, but animation is not a genre. And people keep saying, "The animation genre." It's not a genre! A Western is a genre! Animation is an art form, and it can do any genre. You know, it can do a detective film, a cowboy film, a horror film, an R-rated film, or a kids' fairytale. [...] And next time I hear, "What's it like working in the animation genre?" I'm going to punch that person![1]
> ----- Brad Bird, director of *The Incredibles* and *Ratatouille*

> As if art could ever be free from genres, styles and conventions![2]
> ----- Andrew Darley, "Bones of Contention: Thoughts on the Study of Animation"

> The world is often unkind to new talent, new creations. But the new needs friends.
> ----- Anton Ego, *Ratatouille*

Within film studies, genre theory has yet to identify the computer-animated film as a significant mainstream genre of contemporary cinema. Despite claims made by Steve Neale back in 2001 that connections between genre and contemporary Hollywood cinema were being revived and thus very much "in vogue," the genre status of computer-animated films has been far from secured.[3] Such an omission is particularly puzzling given the resituating of genre on film theory's critical agenda after a "lengthy period of neglect," and the particular rationale given for its theoretical revival.[4] Genre's return was intended to address those emerging cycles and trends now operating within contemporary Hollywood film. Such a statement of critical purpose might have been expected to include computer-animated films, given the shifting industrial context of studio animation in the U.S., the popular chord struck with critics and audiences by computer-animated features, and the acceleration of scholarly interest surrounding the medium more generally. Timothy Corrigan has, for example, summarised the first decade of the new millennium as one that exhibited an overwhelming "fascination with animation," fuelled in no small part by the wedding together of traditional animated

practices with digital technologies in the post-2000 period.[5] A survey of film genre criticism published since *Toy Story*, however, reveals considerable uncertainty and widespread disagreement over the shifting, and at times contradictory, relationship between animation and genre. This chapter identifies the ways in which these broader issues of animation's generic classification have impinged upon the delineation of computer-animated films as a genre in their own right. It also examines the value that can be derived from genre analysis, and the meaningfulness of a genre-based approach for the study of computer-animated films.

Just as the process of defining a genre as opposed to a mode, cycle, series or formula has been wrought with difficulty and contradiction, there is much contention over whether genre remains a suitable descriptor when defining animated films. Such questions hinge upon whether animation itself is qualified as a medium, or whether it is better described as a style or technique. Daniel Goldmark has argued that "animation is *not* a genre; it is a technological process that creates a particular (highly idiosyncratic) means of visual representation."[6] This is certainly not the view held by every genre theorist. The "cartoon" is listed among the "new sites" for genre study offered by Neale.[7] I argue that animation is not a genre, but an expressive medium involving particular kinds of image-making techniques. Computer-animated films are a specific genre of animation and of contemporary cinema more broadly. The critical literature acknowledging the presence of generic structures in computer-animated films has, however, tended to enforce Brad Bird's view regarding animation's correspondence with, and ability to "do," recognisable live-action genres. Submitting computer-animated films to an iconographic treatment of genre—an approach widely made use of in the late 1960s and early 1970s genre criticism—involves the recognition of broad motifs, themes, archetypes and plot structures as the basis for shared commonalities.[8] This has led to the itemisation of computer-animated films according to their most

obvious generic allegiance, situating their narratives in the throes of familiar generic boundaries. M. Keith Brooker, for example, has listed the genres into which computer-animated films most obviously fit, stating that *A Bug's Life* "draws in important ways on the gangster genre," *Monsters, Inc.* turns to the "horror/monster movie genre," and that *Up* is "essentially an entry in the adventure film genre."[9] While post-classical Hollywood cinema has often been defined by scholars in relation to a greater permeability with respect to genre boundaries (leading to emergent postmodern traditions of genre-bending and hybridity), the iconographic analysis of genre in the computer-animated film paradoxically restates the fixity and stability of these same generic boundaries for easy recognition.

Such links between computer-animated films and pre-existing genres are not miscalculations made by the genre theorist, or iconographic errors gone unnoticed by the animators. Paul Wells identifies the overwhelming tendency of animated films to take the "familiar characteristics of a live-action genre and place them with the animated context."[10] Computer-animated films certainly borrow and develop the narrative structures and thematic concerns of a multitude of live-action genres. *Shark Tale* (2004) shares with *A Bug's Life* a reliance upon the tropes of the gangster film; *Kung Fu Panda* (2008) and its sequel *Kung Fu Panda 2* (2011) push against the margins of the martial arts film, while *Cloudy with a Chance of Meatballs* (2009) (disaster movie), *Happy Feet* (musical) and *Surf's Up* (2007) (documentary) all explore established generic vocabularies to great comic effect. *Monsters vs. Aliens* (2009) is the DreamWorks studio's homage to 'B' monster movies such as *The Blob* (1958), *The Fly* (1958) and *Attack of the 50 Foot Woman* (1958), while *Megamind* (2010) spoofs the prolific resurgence in superhero movies (especially those adaptations of Marvel comics) across contemporary U.S. cinema. The visual language and shorthand of familiar genres have certainly been gifts for the expressive scope given to animators as they rework and

dismantle generic expectation in any number of imaginative ways. The Red Riding Hood pastiche *Hoodwinked!* (2005) adapts Charles Perrault's fairytale through a contemporaneous detective story that utilises an unusually fragmented, divergent narrative style. Evoking the "puzzle film" trend of the 1990s that rejects classical lines of causality, *Hoodwinked!* bears the particular imprint of the "forking path" plot template that David Bordwell has suggested is another underlying pattern of storytelling in recent cinema. *Hoodwinked!*'s clever organisation and shifting chronology, as well as the exclusive lines of action and "switchpoints" that envisage each possible future "seriatim," are used to craft a labyrinthine, multi-version account of Perrault's folktale. By telling and then re-telling the fairytale events in a non-linear fashion, and using a plethora of unreliable narrators, *Hoodwinked!* expresses a sophisticated narrative complexity and intricate weaving together of plotlines that manipulates the fairytale genre in a highly comedic manner.[11]

By treating genres in this way, computer-animated films can be explained as examples of genre parody, whereby pre-existing genres become "resuscitated" in ways that are "directly connected to (and constituents of) the genre being spoofed."[12] Parody has long been considered among critics and audiences as the nadir of a genre, signalling the end of its life-cycle. But when considered as footnotes to broader generic systems, computer-animated films can be utilised to explore the longevity of certain film genres and their enduring place in contemporary cinema. The generic verisimilitude of *Toy Story* provides an important basis for considering the revival of the Western genre, rather than a decline in interest in the myths of the American West. Barry Langford argues that "The Western is not 'dead'. [...] Rather, the Western lives on both as a point of cultural reference and a source of narrative and thematic motifs in a wide variety of Hollywood films, including *Star Wars* (1977), *Die Hard* (1986), *Falling Down* (1994) and *Toy Story* (1995), and as a permanent part of Hollywood's generic repertoire

available for periodic renewal.[13] Or, as Elliot West puts it, "Westerns are in," thanks to the computer-animated films *Toy Story 3* (2010) and *Rango*, the latter a "town-taming Western" featuring an "animated chameleon as sheriff and the familiar comic trope of mistaken identity."[14] The generic boundaries of *Toy Story* are clearly plotted against the economy of expression afforded by Western iconography, most notably in its opening sequence depicting toy owner Andy's authored playtime. Glimpses of familiar icons (saloon, outlaw, cattle yard, frontier and heroic cowboy) help school the spectator in what is acceptable or likely to occur within these first passages, just as it would confirm the identity of a generic world in any number of other Westerns. The spaghetti Western style of *Rango* is more enduring than that of *Toy Story*, which sheds much of its explicit Western identity and surrenders the iconography once Andy's playtime is over. Gore Verbinski's first computer-animated film targets a number of classic Western archetypes and individual Westerns from *Django* (1966) and *The Good, the Bad and the Ugly* (1966) to *High Noon* (1952) and *A Fistful of Dollars* (1964), as well as including intertextual references to Robert Altman's neo-noir *Chinatown* (1974) and Francis Ford Coppola's war epic *Apocalypse Now* (1979).

Undertaking an iconographic synopsis of computer-animated film proves particularly useful for the consumer contexts in which film genres operate.[15] To help spectators navigate through cinema's dense genre jungle, broadcast schedules, marketing strategies, VHS and DVD rental facilities, library catalogues and online shopping outlets are predicated on generic shorthand that clusters together specific films to provide easily identifiable signifiers, but also reveal the practical value of genre categories within a high-street context. It is perhaps, therefore, useful to know that computer-animated films such as *Battle for Terra* (2007), *Star Wars: The Clone Wars* (2008), *Space Chimps* (2008), *Planet 51* (2009) and *Mars Needs Moms!* (2011) demonstrate a visible alliance to science-fiction storytelling. Their recognisable

iconography situates them in a different iconographic realm to that of the wartime-comedy *Valiant* (2005), the Frankensteinian hunchbacked horror of *Igor* (2008) or the romance of *Gnomeo & Juliet* (2011). But while fixed genre clusters may provide, in Rick Altman's terms, an "easily sharable and consistently applicable vocabulary," computer-animated films have modified the rules of the generic game.[16] Live-action genre labels prove unsatisfactory in practice due to their inability to account for a broad range of computer-animated films. The Western label is not applicable beyond the *Toy Story* trilogy and *Rango*, just as the martial arts genre is restricted to DreamWorks' two *Kung Fu Panda* films and, the gangster genre reaches its limits with *Shark Tale*. Particular computer-animated films are also more resistant to genre identification than others (resulting in increasingly tenuous links), and are more reflective of genre mixing or hybridity. *Rio* (2011) is a part musical, part-love story set in the Brazilian capital; *Wall-E* combines comedy, drama and romance with science-fiction and *The Incredibles* melds a family drama with superheroism. Even *Toy Story 2* (1999) shifts the Western parameters of its predecessor. The film has instead been identified by Dan Harries as a science-fiction parody alongside *Galaxy Quest* (1999), which also stars the voice of Buzz Lightyear U.S. television star Tim Allen.[17] Within the context of computer-animated films, live-action genres are thus a matter of emphasis and predominance: they are exclusive barometers of occasional generic identity, rather than inclusive markers of genre status. Ed Buscombe has suggested that a genre "is not a mere collection of dead images waiting for a director to animate it, but a tradition with a life of its own."[18] This is a statement that rings particularly true with regard to computer-animated films that have been classed as "animated" only when linked to external generic structures. This chapter opens up a more productive line of enquiry and asks what computer-animated films might potentially share with *each other*. Certainly, the close association of a single computer-animated film to a live-action genre will give rise to a certain set of attributes.

But as computer-animated films manoeuvre and intersect with the iconography and motifs of already established genres, they simultaneously surrender their own preliminary features. It is these repeating features that can be used to develop and hone the identity of the computer-animated film as a "mainstream genre," one that is becoming progressively "familiar and easy to recognise."[19]

To conceptualise a computer-animated film as belonging to a wider computer-animated film genre shifts animation as a medium beyond processes of live-action genrification, and instead asks on what terms animation may have genres of its own, and whether such 'genres' deviate from those in live-action cinema. Several critical studies of Walt Disney have spoken of the "Disney genre" with regards to the studio's feature-length animated output. Scholarly accounts of Japanese *anime* have also made similar gestures towards the possibility of its generic status. But as Nichola Dobson makes clear, while animation produced in Japan "does have a distinctive style and several shared features, there are several genres represented."[20] Wells' approach to the identification of a unique genre typology germane to the animated medium is to propose seven "generic deep structures" of animation that reconcile approach and application with the "*essence* of the art."[21] Wells does not cleave animated films from live-action genres altogether, but determines the impact of their intersections with them. Rather than calling attention to the surface or iconographic manifestations of genre, these "deep structures" bring into relief the immediacy of an animated film's more profound generic contents. This enables a variety of texts across multiple animated forms (and created through disparate processes) to be grouped into generic clusters. The iconography of long-standing genres like the Western function as a veneer "hollowed out" by cartoonal form, crafting a conceptual space into which the real generic meanings "germane to the animated form" are inserted.[22] Wells' focus on the ingenuity of process, and the particularity of animation's virtues as an artistic practice, opens up the possibility of

talking about generic outcomes in the computer-animated film in an altogether different way.

Numerous scholars have, for example, looked beyond the Western iconography with which *Toy Story* opens and understood it as part of a wider project to catch the spectator up in the film's own effects of illusion. Thomas Elsaesser and Malte Hagener argue that the "classic movie situation" of the Western frontier dramatises the shift from traditional chemical photographic process to post-photographic digital animation. The confrontation of Sheriff Woody and a gunslinging villain One-Eyed Bart (actually a Mr. Potato Head doll) neatly plays out the pencil-to-pixel transition inaugurated by *Toy Story*. A "double reality" is crafted whereby the staging of the Western mini-narrative showcases creative human agency that eventually recedes within computer processing: a new frontier emerging from "drawing hand to generated pixel."[23] In a similar vein, J.P. Telotte suggests that the "artlessly constructed" cardboard sets denoting the dependable, culturally-recognised Western icons, actually signals a self-conscious "surface play" concerning the new illusionary achievements of computer-animated film worlds (Fig. 1.1). Telotte argues that the familiarity of the Western partakes in a game of illusion or joke of expectation regarding constructed realities, a moment knowingly in dialogue with the complex three-dimensional spaces both achievable and available later in the film.[24] Here, the Western iconography is literally "hollowed out" (by Andy, and by the film), and co-opted into a playful cardboard façade that makes room for *Toy Story*'s broader self-reflexivity. It is this narrative treatment of virtual space, and the play of new possibilities in digital depth and dimensionality, which Telotte goes on to trace among *Toy Story*'s (non-Western) "digital brethren," suggesting that *Monsters, Inc.*, *The Incredibles* and *Cars* (2006) are all self-consciously invested in the space of its stories. Telotte's approach demonstrates that computer-animated films can be productively linked according to certain repeating characteristics, but also that such

connections may draw on alternate conditions that operate in excess of familiar genre labels. Computer-animated films may, on the one hand, be powered by the pre-existing iconography of familiar film genres. Yet within this very same process of "doing" other genres (to use Bird's terminology), they begin to both create and announce their own specificities, and thus open up the ulterior ways in which they can be discussed.

By viewing computer-animated films as connected through their own internal structures and attributes, rather than simply governed by the rule-based familiarity of live-action genres, a host of new properties within their textual systems are brought to the fore. As Jason Mittel has commented, "the members of any given category do not create, define or constitute the category itself," adding that "there is nothing intrinsic about the category."[25] The shifting frames of genre classification (rather than shifting properties of the films themselves) permit the surfacing of a fresh set of textual attributes. These attributes can help stake a computer-animated film's claim for genericity, and in the process upturn conventional critical accounts that engage with their formal properties. Nowhere is this better demonstrated than in the case of Walt Disney's forty-fifth (and first computer-animated) feature-film *Chicken Little* (2005). The film—an unofficial remake of its own 1943 cartoon—shares multiple points of contact with the classic Disney formula, a predictable narrative pattern that numerous scholars have glossed from the studio's cel-animated features.[26] *Chicken Little* also bears the stamp of the Disney studio's own internally-shifting trajectories. Chris Pallant has situated the film within the recent period of "Neo-Disney" animation of the early 2000s. This was a stylistically progressive and heterogeneous phase in which the unprecedented "cartoonality" of the studio's animated features broke with its established hyper-realist codes and conventions.[27] Pallant argues that *Chicken Little*, alongside *The Emperor's New Groove* (2000), *Atlantis: The Lost Empire* (2001) and *Lilo & Stitch* (2002) all dispensed with the traditional Disney visual style and character

design, whilst adding in a self-reflexive sensibility to "develop the Disney aesthetic in a new direction."[28] However, the "self-reflexive mission statement" of *Chicken Little* can be used to network the film to a range of computer-animated films that, in some cases, pre-date this experimental "Neo-Disney" period. As Telotte makes clear, *Toy Story* is highly self-reflexive in its "hollowing out" of Western archetypes. Yet *Shrek* is perhaps the most obvious influence upon the ironic, derisive tone and fractured fairytale form of *Chicken Little*. In the opening sequence to Disney's film, the magic dust and fairytale storybook are immediately dismissed for being clichéd and uninspired by narrator Buck Cluck ("Oh no, no not the book, how many have seen opening the book before? Close the book, we're not doing that!"). But *Shrek* shares—and, in fact, prefigures—*Chicken Little*'s invocation of the familiar "Once Upon a Time" narrative frame. The eponymous ogre tears one of the book's pages showing a valiant knight for use as toilet paper, before he bursts ungainly through a lavatory door in the film's first shot (Fig. 1.2). The *Shrek* films have explicitly dishonoured the fairytale traditions within their broader subversion of Disney moralism. A vengeful Rumpelstiltskin is likewise shown removing out multiple pages from the storybook in furious (and unsentimental) rage during the first scenes of *Shrek Forever After* (2010), in what is another physical assault on the narrative 'tradition' of Snow White and Cinderella. *Happily N'Ever After* (2006), *Hoodwinked!* and its sequel *Hoodwinked Too! Hood vs. Evil* (2011) have further mocked and manipulated fairytale archetypes. As Jessica Tiffin explains, these computer-animated films share a "certain ironic distance" that identifies the metafictional, self-conscious element of the "post-*Shrek*" fairytale.[29] The humour and self-referentiality of *Chicken Little*'s opening moments, as it goes about mocking the "staleness" of past Disney convention, therefore does not necessarily expose or confirm the influence of the prior "Neo-Disney" period. Rather, genre classification permits its teleology to be viewed as far more nuanced. *Chicken Little* inherits the self-reflexive

freedoms of other computer-animated films, which as Henry Giroux and Grace Pollock argue tend to "diverge from the classic Disney formula."[30] Implicated within the "post-*Shrek*" fairytale, its narrative is indebted to the kinds of irreverent, playful humour towards the Disney studio that had already taken root towards the very beginning of the genre.

Armed with the possibilities enabled by generic thinking, significant inroads can be made into the complex and lively terrain of computer-animated films, resulting in the plotting of new paths and crafting of new generic futures. For example, Disney's more recent computer-animated fairytale *Tangled* (2010) does seem to more readily fall back on the classic Disney template. The dominant components of "the musical format, the presence of cute animals in interaction with the main characters, an easily recognizable antagonist, the elements of slapstick comedy, [and] the romantic conclusion" are all narrative and thematic certainties listed by Tiffin that also punctuate *Tangled*.[31] Framing *Tangled* as a Disney film offers one set of values that may be used to closely analyse the film. But when placed alongside films of an alternate type or kind (say, aligned with other computer-animated films in a genre), a fresh set of repeating features within *Tangled* soon emerges. Such features afford the opportunity to re-position the film *away* from its Disney heritage, and to craft fresh associations between its fairytale narrative and a host of other computer-animated films, such as the "post-*Shrek*" fairytales described by Tiffin. Yet this also includes, of course, conjoining *Tangled* to the other digitally-animated films made by Disney during the contemporary era, albeit in ways that actually manoeuvre *outside* the recognisable pattern of the classic Disney formula. The criteria linking *Tangled* to *Chicken Little*, but also to *Meet the Robinsons* (2007), *Bolt* (2008) and *Wreck-It Ralph* (2012) instead emerge from the ulterior features germane to the broader computer-animated film genre, rather than the fact they are simply all Disney films. But what are these dominant markers that may organise and

bring together computer-animated films such as *Tangled* under the heading of genre? Genre analysis must ultimately make what Langford calls "meaningful discriminations" about a text, and not simply "invent absurd refinements of generic denomination."[32] It is the purpose of this chapter and those that follow to activate salient generic criteria, and to outline those features upon which a meaningful computer-animated film genre can be determined and defined.

If to place a film into a genre is to situate it within a discourse of perceived commonalities, types or kinds—thus recalling the original French definition of the term—then the virtual realms and cinematic cyberspaces of computer-animated films immediately offer a conventional stability. Computer-animated films meet Barry Keith Grant's claim that "genre movies are those commercial feature films which, through repetition and variation, tell familiar stories with familiar characters in familiar situations."[33] Though there is no 'rigid' taxonomy of inclusion and exclusion when erecting generic boundaries, digital technology instantly manages a computer-animated film's entrance into the corpus by embodying one of its most important and irrevocable "familiar situations."[34] Technology has been employed by genre theorists before as a central determinant in defining animation as a genre. In her recent specifying of "the cartoon" as a genre, Raphaëlle Moine argues that "the technical aspects of filmmaking provide criteria [...] [which] gives rise" to it as a generic category."[35] Bordwell has also emphasised the role of "technical process" in determining film genres, although he does acknowledge its permeability with other "enabling schemata" such as (amongst others) shared themes, style and ideology.[36] These kinds of technically-minded approaches persist on account of animation's graphic nature, which is perceived by scholars to "blunt the usefulness of iconography as a generic arbitrator."[37] This leaves technological considerations as a reminder (and remainder) of genre status. Furthermore, the ontology of animation has been employed by Paul Watson to interrogate the terms under which

genre boundaries have traditionally been erected, and the failure of film genre theory more broadly to accommodate non-photographic forms of image-making.[38] The computer-animated film certainly poses a greater challenge to genre definitions in the cinematic context than live-action films do. However, there are manifold problems with invoking digital technology as the sole basis of the computer-animated film's genre identity, not least because it is not as stable a negotiator as has been previously identified (as indicated by the lack of security regarding animation's broader genre status).

The technological characteristics of "digitality" and "virtuality" that are often assigned to new media are the same conditions used to subsume all computer-based artefacts—including computer-animated films—into the same shared history.[39] Computer-animated films have been made commensurate with a broad "digital theory" that, as Henry Jenkins recognises, may address "anything from the role of CGI special effects in Hollywood blockbusters to new systems of communication (the Net), new genres of entertainment (the computer game) [...] or new systems of representation (digital photography or virtual reality)."[40] Generic classification has come to play a more prominent role in the identification, division and categorisation of new media forms (including the application of film genre theories).[41] But when Andrew Darley declares that computer-animation broadly constitutes "a form or genre in its own right," the reference to 'computer-animation' is intended to denote all new media types that involve this "particular way of producing the illusion of movement."[42] From the perspective of film genre theory, the irrefutable "digitality" of computer-animated films also courts questions about the identification of a corpus, questions that were first asked by film genre criticism in the 1970s. Buscombe argues that "if we want to know what a western is, we must look at certain kinds of films. But how do we know which films to look at until we know what a western is?"[43] Following this line of enquiry, Andrew

Tudor subsequently labelled this problem the "empiricist dilemma;" a loop that first necessitates that films be isolated in accordance to specific criteria (an "indefinable "X""), but that this such criteria only emerges from the "empirically established" common characteristics of films.[44] Tudor's solution to these issues of categorisation (that "genre is what we collectively believe it to be") does dissolve the "empiricist dilemma" by leaning on a common set of shared beliefs uniting critics and audience. But for Peter Hutchings, this merely "replaces one problem with another, namely how does one begin to identify the common "cultural consensus" which defines a genre?"[45] Certain genres are defined according to regulated narrative content, while others by their intense emotional effect on spectators.[46] Within the context of computer-animated films, this "consensus" is not derived from any shared social consciousness. It is an industry-defined rubric. As Geoff King points out, it is "not hard to make sense of genre from an industrial perspective."[47] Here, King is speaking about the commercial stability afforded by genre labelling within Hollywood, and the business acumen that comes from packaging products according to successful formulas. But the U.S. animation industry and its practitioners have shaped computer-animated films to exhibit a degree of formal specificity, harnessing their "digitality" in particular ways.

Computer-animated films convey a uniform three-dimensional visual style, despite the capabilities of digital technology for non-photorealistic rendering. Patrick Power has described the capacity for computer graphics to "output a naturalistic scene in eclectic styles from cartoon-style to Canaletto."[48] For example, cel-shading is a computer rendering process that is designed to replicate the simplified style of hand-drawn animation using digital media. It has often been employed as a cost-effective substitute for cel-animated techniques, taking over the block colours and inked black outlines in the production of long-form animation such as *The Simpsons* (1989-) and *Futurama* (1999-), and rendering certain background elements in *Family Guy* (1999-).

Digital techniques have even been designed to replace the geometric, cut-out style of animation characteristic of *South Park* (1997-). High-end computer programs mainly reserved for rendering 3D computer graphics are used in the series to visually replicate its (earlier) cheap, crude, stop-motion style, albeit more rapidly and for a fraction of the cost. Certain software systems and packages (such as RenderMan and Maya) have become animation industry standards for complex rendering processes. But the specificity of the visual language of computer-animated films, by contrast, is one that consciously trades in flourishes of depth and dimension. These new screen worlds have a strong spatial imperative, with an impressive volume and heightened agency to their worlds that is hitherto unseen in animated cartoons. Mittel asserts that texts cannot be linked arbitrarily or on their own, but are done so on the basis of cultural practices of production.[49] Generic continuity in the computer-animated film is dually achieved and enacted through the actions of an animation industry that has crafted a heightened three-dimensional aesthetic style as its master image: it helps set the parameters for inclusion by qualifying a film's membership to the genre.

Even considering this increased specificity to the kinds of digital application found in computer-animated films, the spectre of the "empiricist dilemma" looms large over their potential generic identity. Given what information about computer-animated films is *already known*—namely that they are manufactured digitally and realised through three-dimensional computer graphics—they remain open to accusations that the 'meaning' or 'truthfulness' of the genre will be extrapolated from those films that *already* comprise that genre. In effect, the "certain kind" of computer-animated films still exists prior to the full network of attributes used to determine exclusion or inclusion. The digital is certainly a fundamental component of the computer-animated film genre, even a strikingly manageable aspect of it. These films' virtual status or "digitality" is unlikely to undergo much intense theoretical revision or become subject

to radical change. As many genre theorists have pointed out, multiple films have undergone a rhetorical process of "re-genrification" over time, implying that films can belong to many genres all at once as the frames of reference are historically repositioned. But these generic gradations are unlikely to befit those feature-length films that are computer-animated, given that their digital identity is not liable to modify beyond all applicability. Equally, the digital is a strong regulating principle and an intrinsic property of these films that confirms something of the genre's visual qualities, suggesting its uniqueness to cinema (unlike, say, the Western with its roots as far back as Owen Wister's 1902 novel *The Virginian*). However, while digital technology may help define the genre, it does not exhaust the criteria used to solve the genre riddle completely. If film genres are premised upon formulaic tendencies, as well as necessary degrees of repetition and difference, then the computer-animated film's digitality is simply one "familiar situation" or relational possibility among many available. The fundamental sharing of a digital aesthetic does not account for the stylistic breadth of computer-animated films as diverse as *Beowulf* (2007), a violent fantasy based on the Anglo-Saxon epic poem dated between the 8th and the early 11th century, and *Jonah: A Veggietales Movie* (2002), which conveys a strong Christian morality and is based on the Biblical story of Jonah (albeit relayed with talking vegetables). This is a genre that includes *Shrek* and *The Polar Express*, *Monster House* (2006) and *Happy Feet*, *Cloudy with a Chance of Meatballs* and *Wall-E* in the same generic breath. What is missing, then, is a stable framework with which to interrogate the computer-animated film as a genre of contemporary cinema, and to account for the relations between what is a remarkably heterogeneous and lively collection of texts.

Genres evolve and mutate in partnership with the theories employed to determine or classify them. A primary feature of the contemporary return among film studies to cinema's genres has been their greater elucidation along a multitude of axes,

as a response to the problems associated with the iconographic interpretation of film genre. During the 1980s and 1990s, Neale was sympathetic to the possibility of fluid boundaries between genres and the historical (industrial) regimes in which they operate. He argued that any one genre is multivalent: a producer of cultural meanings that both resides in but also bridges the gulf between consumer, commerce and criticism. He argued that genres act "not as forms of textual codifications, but as systems of orientations, expectations and conventions that circulate between industry, text and subject."[50] Despite the expansion of genre within the economy of cinema and its shifting, fluid position as both an industrial and cultural process, "textual codification" remains a much-needed determinant of the genre*ness* of computer-animated films. Discourses of genre do not emerge solely from industrial sources and the circulation of pre-packaged generic labels by the mainstream Hollywood film industry. It is the task of the genre critic, as Neale argues, to subject the institutionally-defined corpus to further analysis and to describe its structural agents of generic form. Computer-animated films notably lack any real shape or definition at the level of formal structure. The formation of a meaningful computer-animated film genre must pay greater attention to its generic identity as it is located among sharable features and their interconnectedness. It is not simply an industry-defined blueprint that has patterned the production of mainstream animation. Let us not forget the many ideological accounts of computer-animated films that have been rooted in textual rather than industrial concerns (textual *inscription* over the ritualistic *prescription* of genre by an institution). Altman strikes a balance between a diachronic consideration of a genre's historical context with a synchronic, semiotic approach. As Mittell argues, despite being grounded in historicism, the "centrepiece" of Altman's discursive treatment remains the emphasis on genre as a significant attribute of textual structures. Altman's influential textualist model for film genre argues that their salient features are organised along two linguistic

axes, the semantic and the syntactic.[51] Within a framework that is both structural *and* iconographic, the semantic criteria (*words* or "building blocks") are understood as "common topics, shared plots, key scenes, character types, familiar objects or recognizable shots and sounds." Syntactic elements (*sentence* or how spoken) include "plot structure, character relationships or image and sound montage."[52] Textual semantics benefit from "broad applicability, easy recognition, and general consensus," while the syntax describes the narrative and thematic structures into which these building blocks are presented. Within the boundaries of the text, such formal structures are historically contingent. Film genres are not, as Altman suggests, "Platonic categories existing outside the flow of time," but the shifting interrelationship between the semantic and syntactic features are a necessary part of a genre's evolving form that invite reflection upon its historical dimension. In this way, genre emerges as more than just a convenient label to account for computer-animated films in their plurality. Such films are not in a period of dormancy, but are ongoing and present, suggesting their genre status is tied to a particular historical period (emerging in the last twenty-years). From this perspective, *Toy Story* cannot be viewed as providing the computer-animated film with its exhaustive generic vocabulary, one that has cumulatively crafted rigid horizons of expectation and governed membership to the genre. Rather, Pixar's debut film inaugurates a loose generic template that subsequent computer-animated films have both added to and subtracted from in equal measure. It is a genre open to negotiation and change. But in determining its possible features, computer-animated films cannot be "exiled from history" or insulated against the impact of technological development.[53] The genre status of computer-animated films is manifest in a particular rhetoric of enunciation, informed by the conditions of its animated identity. The ritual (industrial) element of the genre as an institutional practice thus comes to bear upon the textual features of the text itself.

The conceptual boundary between the categories of 'animation' and 'film' has remained a site of preoccupation and contention among studies of animation and digital cinema since the 1990s. Alan Cholodenko, for instance, has claimed that all cinema is the progeny of animation.[54] Yet the conceptualisation of animation in this way risks eroding those specificities holding the medium distinct from other filmmaking practices. Alla Gadassik, for example, has identified the blurred lines separating animation from mainstream moving-image production, and the progressive remaking of live-action as simply *another animation*.[55] Or as the young superhero Dash puts it in Pixar's *The Incredibles*, if "everyone's special'" that means "no-one is." Just as the desire to find suitable generic structures for animation looks to those germane to the medium—rather than grafting pre-existing genre categories onto animated cartoons—critical emphasis has tended to spotlight how computer-animated films make their presence felt through conventions found throughout their history (though such films are not reducible to them). Wells, for example, has questioned the reading of *Antz* offered by Martin Barker, on the grounds that Barker's approach marginalises the film's vocabulary "intrinsically drawn from the 2D graphic and 3D stop-motion modes of animation," and effaces the traditions of Disney, Warner Brothers and the Fleischer cartoons.[56] Barker focuses, instead, on the fact that in *Antz*, the classic good/evil confrontation of the narrative is combined with star-voice casting (Woody Allen, Sharon Stone, Sylvester Stallone); self-reflexive storytelling conventions; numerous intertextual quotations from live-action cinema; the possible presence of special effects; and the "contradictory" interplay between the human and non-human characters in the film.[57] Wells' choice of a vocabulary drawn from the history of animation when describing *Antz* (against Barker's downplaying of it), aims to prevent the recession of animation as the computer-animated film's dominant gene, and like Buzz Lightyear, avoid its animated identity irretrievably "falling with style." Claims that animation's formal prerogatives are rooted

in the medium's own capabilities, rather than reducible to live-action comparisons, has been central to the formation and subsequent trajectory of animation studies. Michael Barrier, for example, disapprovingly describes Disney's shift towards realism during the Golden Age period as "parasitic animation, separated from live-action only by the leavening of caricature."[58] Back in the 1940s, Sergei Eisenstein also recognised that Disney's *Bambi* (1942) replaced the formal expressiveness and visual anarchy of the *Silly Symphonies* with an "oleographically copied, *emphatically objective* environment" (though this shift was a corrected, in Eisenstein's view, by Disney's cel-animated anthology feature *Make Mine Music* from 1946). The digital properties of computer-animated films have subsequently become the basis for plotting new genealogical paths. The formal currency, immersive sensory cues and narrative logic of the computer-animated film have, for example, been aligned by new media and animation scholars with a videogame phenomenology (on account of the narrow "ontological gap" that exists between computer-animated films and the videogame platform).[59] This mutual genealogy nudges the aesthetics and formal style of the computer-animated film towards alternate histories and representational logics, rather than just attributing them, as Jessica Aldred puts it, to "the adventures of *Bambi, Dumbo* and the like."[60]

Not every textual attribute of every computer-animated film can be used to determine their broader generic identity. Multiple levels of genericity operate in the bringing of genre texts into closer contact with each other, just as genre classification always entails the disqualification of certain possibilities to the inclusion of others. Eight formal features of computer-animated film provide the focus for each upcoming chapter in this dissertation: the journey narrative, intertextual referencing, anthropomorphism, the treatment of junk and discarded objects, the vocal performances of both established stars and children, and a deconstructive comic style that pushes at the boundaries of anti-illusionism. These are the chosen semantic or syntactic features

that act as a promise of content: the generic data with which multiple computer-animated films have been encoded. Such features, while characteristic of the genre, are not unique to it. But it is their combination and prominence across multiple computer-animated films that mark them as distinctive. The purpose of this dissertation is to identify how *through* these features, the textual legibility of the computer-animated film as a genre is primarily informed by the distinctiveness and creativity of animation as a medium. At the same time, these same features bear out the palette of expressive possibilities available, from the use of sophisticated camera and lighting set-ups resembling those found in live-action film to performance styles that owe a debt to silent film rather than painted cel performers. This dissertation employs the term *computer-animated film* throughout precisely because it is informed by their complex genealogy, rather than strangled by or inoculated against it. It reminds us that an encounter with a computer-animated film is an encounter with traditions of animation, with a digital construct, and with a Hollywood narrative film. In addition, the term computer-*animated* avoids the unwanted connotations of computer-*generated*, a label that semantically privileges mechanized, non-human automation over the flourishes of artisan manual labour.[61] The use of computer-animated film across this dissertation is intended as shorthand for how the computer of computer-animation replaces the art and not the artist. Given their multifariousness, computer-animated films come close to being what Tzvetan Todorov calls a "theoretical genre." Genre-ness is calculated and deduced on the basis of "abstract" suppositions, prescriptions and properties, and not necessarily on the security of pre-existing genres (which would be, for Todorov, a "historical genre").[62] Though several (but not all) of the features discussed in upcoming chapters *do* have a precedent in earlier animated forms, the medium's own unresolved status as a genre means that computer-animated films cannot be considered a straightforward "historical genre." Animation does not predict the generic fate of the

computer-animated film, and a more abstract, less historically-grounded "theoretical" reflection is also required to determine the precise terms of its generic identity. The "theoretical" computer-animated film genre does not exist autonomously outside of the multiple animated texts it accounts for. Rather, the genre's status as "theoretical" is a product of the rich operations, properties, conditions and conventions that have been shared and revisited across numerous computer-animated films.

"If it ain't an adventure, it ain't worth doing" The computer-animated film and journey narratives.

A recurring generic feature of the computer-animated film is the journey narrative. The implementing of a journey narrative structure as its first line of action is as common in computer-animated films as it is distinctive, and can be sub-divided into two interlocking forms, defined as "over the hedge" and "flushed away" scenarios. The "flushed away" journey narrative relies on abrupt geographical disjuncture, which often requires the protagonist to negotiate and quickly adapt to a foreign milieu. It follows a style reminiscent of the Classical Hollywood model with regard to the emphasis that is placed upon the tribulations of the individual. The "flushed away" journey narrative is unplanned and inadvertent: the protagonist is caught unaware by the intrusion of external factors. This kind of narrative therefore rehearses the disruption or conflict common to the studio-era pattern, in which the founding stability is compromised by the radical complication and urgency of an encounter with an obstacle. However, unlike the goal-oriented structure of the Classical storyline, the disruptions in "flushed away" narratives function as the dramatic catalyst for the subsequent journey. Such disruptions do not, therefore, jeopardise the protagonist's ability to reach their intended goal. Rather they intervene in the film's narrative (often toward the beginning) to create an entirely new set of incentives and targets based on their fresh circumstances, and set in motion the protagonist's acclimatisation and adjustment to them.

The process of becoming displaced—that is, the act of becoming "flushed away"—is itself frequently coded as extreme or perilous, involving dramatically staged sequences designed to spotlight the character's physical transition between *known* and *foreign* territories. The "flushed away" journey narrative is therefore posed not only as a geographical disruption and a rupture of the equilibrium, but is a creative and visually dynamic leap *between* connected virtual spaces. *Flushed Away* is the blueprint for this

type of journey narrative structure, telling the story of a noble pet rat named Roddy St. James who is accidentally "flushed" from his home in Kensington to the secret world of the underground sewers. Taken through the sewage pipes and waterworks, Roddy's (literal) downfall is equally the film's opportunity to "flush" the spectator from one milieu to the other (Fig. 1.3). The separation of Remy from his family in *Ratatouille* unfolds along strikingly similar lines, albeit taking place in the underground sewers of Paris. *Rango* is entirely self-conscious about the dramatic possibilities of the journey narrative and its use as motivation for a computer-animated film character's unexpected liberation. The film opens on the eponymous lizard and his overly-dramatic one-man play, complete with his unconvincing accents and a deluded sense of professionalism. But Rango suddenly breaks from his hammy performance, announcing to his fellow cast members "People, I've had an epiphany! The hero cannot exist in a vacuum! What our story needs is an ironic, unexpected event that will propel the hero into conflict!" The film's broader "flushed away" journey narrative is subsequently cued to this statement, and Rango is unexpectedly flung from the safety of his terrarium across a desert highway and into oncoming traffic. The centre of *Rango*'s "flushed away" narrative lies in the drama of perilous surprise, something that the manipulation of the spatio-temporal logic in the time-travel narratives of *The Magic Roundabout* (2005) and *A Christmas Carol* (2009) also make especially clear. But it is equally about the simple re-situating of the protagonist in a new situation against their will. As the young boy Milo screams in *Mars Needs Moms!* as he is unintentionally rocketed up to the Red Planet from Earth, "I'm caught in here! Let me go!"

Just as common to the computer-animated film are the journey narratives that can be defined by the label "over the hedge." These voyages are signalled as altogether more prepared or expected: a narrative manifestation of an individual character's tenacity, resolve and idealism. Flik's trip to the city to find circus bugs in *A Bug's Life*;

Rodney Copperbottom's escape from suburban Rivet Town to Robot City in *Robots* (2005) and Tintin's globe-trotting quest in *The Adventures of Tintin: Secret of the Unicorn* are all examples of this narrative form. Characters remain aware of their upcoming excursions, belongings are assembled and a route planned with a clearly-defined goal (the resolution of which may form the traditional happy ending). If "flushed away" narratives emphasise the drama of a character helpless in the new circumstances they find themselves in, then "over the hedge" narratives illustrate a greater degree of character motivation. Terrain is crossed with a sense of freedom and purpose, rather than fortuity. These pre-arranged "over the hedge" narratives can also be born out of a necessity to restore order from conflict, and thus often function as the film's main narratological premise. Shrek must find Arthur "Artie" Pendragon and announce this young Royal heir as King of Far Far Away in *Shrek the Third* (2007); the animals in *Ice Age: The Meltdown* (2006) must trek to safety before the glaciers melt away; Yankee Irving must return Babe Ruth's baseball bat to its owner in *Everyone's Hero* (2007) before the next game in the 1932 World Series. The object of such goal-orientated narratives is therefore staked in a clearly-defined external jeopardy. In *Over the Hedge,* R.J. the racoon encourages a wealth of unsuspecting forest animals to traverse a large hedge erected during their winter hibernation. The stakes for the journey are tied to RJ's quest to use the gathered provisions for his own personal gain (he must re-stock a wagon of food owned by a threatening grizzly bear) (Fig. 1.4).

Computer-animated films are travel films, and mobility typically defines the character's relationship to the virtual spaces they inhabit. But what is at stake in the reusing of the journey narrative, and why is it encountered so regularly in the computer-animated film? The desirability of the journey narrative for the genre is, on the one hand, far from surprising given the wider prevalence of this narrative form across numerous historical and cultural contexts. For Jane Suzanne Carroll, the "journey-based

narrative" is the "master story of western civilization," and she identifies the many stories and folktales that include a multitude of pilgrimages and quests.[63] Janis P. Stout has further traced the enduring image and basic shapes of the journeyer or quester within the American literary tradition that frequently deals with motion and migration.[64] Stout argues that the conspicuous presence of travels and voyages is reflective of American national history, in which "spatial movement has been the characteristic expression of our sense of life."[65] Changes in the way journeys are represented have a relationship to changes in the wider cultural experience of travel, particularly the new meanings surrounding new forms of transportation. Dimitrios Eleftheriotis points out that the nineteenth-century fascination with "machines of mobility (bicycles, motorcycles, trains and automobiles)" was matched by the increase of "mobile science," whereby journeys of exploration and scientific expeditions "became crucial epistemological tools" in the collection of data.[66] The commodification of travel during the nineteenth-century also traded in the (re)locational movement of goods as they were brought to market, circulating commodities "uprooted" from their original context and re-valued through processes of exchange.

Computer-animated films certainly continue these literary, historical and cultural traditions of journey-centeredness, prioritising the journey narrative as their primary thematic concern. But there are many other reasons why the genre combines various patterns of the journey. The journey framework not only enforces a chronology of events, but also crafts the "chrono-logic" that Seymour Chatman suggests is part of the double temporal logic of narratives more broadly. The virtues of the journey narrative—as the organisation of a story according to conceptions of travel—lie in its ability to stabilise the "external" movement through time ("the duration of the presentation" of the film text), but also the "internal" logic too ("the duration of the film's sequence of events").[67] Brian Winston has added, with respect to documentary film, that journey

films "solved actuality's big narrative problem – closure." He asks "how should [such] films finish? Obviously a journey film ends with the end of a journey."[68] The logical consistency of the "over the hedge" journey narratives are intended to conclude with the satisfaction of the end (Rodney does reach Robot City and the animals do reach safety in *Ice Age: The Meltdown*). In the "over the hedge" journey narrative from the Dr. Seuss adaptation *Horton Hears a Who!*, Horton successfully preserves the miniature community of Whoville—who reside in a tiny speck of dust sitting upon a flower—by transporting it to a safe and stable home away from the film's antagonist, the Sour Kangaroo. Due to its disruptive properties, the "flushed away" journey narrative often concludes with the symbol of a place as the "end" that is located anywhere, and may exist in any form. *Flushed Away* chooses to keep Roddy in the underground sewers; *Ratatouille*'s Remy stays to cook in Paris; and Lightning McQueen remains in the dusty and forgotten town of Radiator Springs in *Cars* following his unexpected pit-stop there. But such narratives justify these relocations by framing the new locale as an improvement, and the event of being "flushed away" as an important act of re-discovery. Roddy finds the sense of community and belonging he is shown to crave, while Lightning McQueen learns a greater appreciation for small town values. Remy finally opens a restaurant, "La Ratatouille," in the heart of Paris, dissolving the prejudice between human and non-human characters, to show their peaceful co-existence in the French capital. Staying true to the Classical narrative model in which, as King writes, the initial equilibrium is "restored or restated in a different form," it is the linear, sequential style of the journey narrative that permits the end of the journey to be renewed as a new destination.

The iconography of *Cars* and its sequel *Cars 2* (2011) invite comparison to the particular cinematic traditions of the road movie. Pamela Robertson claims that while the road movie might be about "the journey more than about any particular destination,"

this genre maintains its obsession with notions of the "home."[69] This fascination exists because, as Corey Creekmur adds, either "you can't go home again," or "there's no place like home."[70] *Flushed Away*, *Cars* and *Ratatouille* all posit the former as a lack of willing to return mitigated by the lure of a developing romance. These films match geographical relocation with a new romantic opportunity. Roddy suggestively asks fellow rodent Rita if she "wouldn't happen to need a first mate," while Lightning decides to "stop and stay a while" in Radiator Springs, much to the delight of love-interest Sally. However, the "flushed away" journey narrative most commonly equates the "end" with a return to a Kansas-like (and no place like) "home." The forward-directed closure of the computer-animated journey becomes cyclical as the geographic, as well as narrative, resolution takes place in which the 'end' is ultimately expressed as a desire to return to the familiarity and *already known* of the 'beginning.' "Let's go home" utters Woody at the end of *Toy Story 2*, a weary statement articulating the pull-string toy's wish to return to the sanctuary of Andy's Room. The equilibrium is *restored*, rather than *renewed*, inasmuch as Woody is free from the constraints of living as a museum piece, and returns to life as a child's plaything.

The journey narratives of numerous other computer-animated films have been resolved through the satisfaction of a homecoming. *The Polar Express* and *Mars Needs Moms!* have their "flushed away" narratives framed by the protagonists' aspirations to return home (often personalised through the symbol of the family member or in Woody's case, his owner). The homecoming in *Wall-E* is precisely that: the inquisitive robot is a civilising force, returning the human race to Earth following their voyage aboard the AXIOM to (re)make the desolate planet hospitable and homely once again. In *Monsters, Inc.*, protagonists Mike Wazowski and James P. "Sulley" Sullivan must themselves return human child Boo to her bedroom, following her disruptive intrusion into the monster world they inhabit. In this way, the journey narrative is ultimately large

enough to accommodate both the "flushed away" and "over the hedge" scenarios, permitting them to circulate simultaneously and germinate from one another. *Up* is a particularly productive example in this respect, not least because it plays with the home as an ideological space of comfort, protection and sanctuary, and replaces the notion of homecoming with leaving the home behind.[71] *Up* incorporates the genre's two journey narratives by attaching them to its two primary characters. Whereas the balloon voyage of Carl Fredericksen occupies the "over the hedge" element of *Up*'s broader narrative structure ("so long boys!"), it is the young boy scout Russell who embodies the "flushed away" element of the film. He accidentally boards Carl's flying house upon its take off when in pursuit of the fictitious 'snipe' animal, and in doing so the "over the hedge" and "flushed away" strands of the film suddenly merge. Similarly, the desire to return, find, locate or discover home is naturally expressed in the more goal-orientated conditions of the "over the hedge" narrative, albeit motivated by the displacement and alienation of another character becoming "flushed away." Bolt the dog, for example, pursues a journey back to owner Penny in *Bolt*; Ryan the lion cub is accidentally imprisoned away from his father Samson in *The Wild* (2006), and the young Nemo is separated from his father Marlin in the fish-out-of water narrative of *Finding Nemo*. Both father figures resolve to locate their separated offspring. Or, as Manny puts it upon his parting from daughter Peaches in *Ice Age: Continental Drift* (2012), "I will find you." It is the logical sense of progression, but also the demand for resolution, destiny and fate offered by the journey narrative, which makes it an ideal device around which to shape the themes of a computer-animated film. But the value of the journey narrative can equally be cast on the side of characters and characterisation. It permits the development of personal attributes and qualities; the evolution and resolution of a narrative that is as much physical (the activity of travel) as it is psychological. In this way, the journey narratives in computer-animated films conform to Altman's model of a "single-focus narrative,"

storylines that commonly take the form of "a journey (whether the literal wanderings of voyagers, the spiritual path of a Dante, or the psychological vagaries of the Bildungsroman)."[72] Within the computer-animated film's journey narrative, characters can resolve inner conflict or feelings of guilt (Marlin eventually finds his son in *Finding Nemo*, Manny returns to his rebellious daughter in *Ice Age: Continental Drift*); learn humility (Scrooge in *A Christmas Carol*); redeem prior indiscretions (The Once-ler in *The Lorax*); or achieve a sense of self-worth (as with Rapunzel's ascent to womanhood in *Tangled*).

Journey narratives in the computer-animated film typically begin as singular excursions. Spatial movement and directional values are normally embodied through an individual character suddenly separated from their social group, or who desires to break out from its restrictive confines. As Z puts it in *Antz* when reflecting on the hard labour of the colony, "You know I always tell myself there's got to be something better out there." Computer-animated films conform to the narrative economy and linearity of the *monomyth* or hero's journey pattern as proposed by Joseph Campbell.[73] Here, a single figure is called to adventure as a rites of passage process for personal growth and the acquisition of knowledge. Both Roddy and R.J. are coded in the respective fictional worlds of *Flushed Away* and *Over the Hedge* as loners. R.J. announces that he is nothing but "a family of one," while Roddy's isolated circumstances are expressed through sound and image during an opening sequence that shows him undertaking group activities on his own (set to the soundtrack of the Billy Idol song "Dancing with Myself"). But it is through their respective journey narratives that R.J. and Roddy are introduced to a particular kind of collective community, one that reflects the genre's wider re-negotiation of traditional family values.

Computer-animated films show minimal investment in the normative social unit of the nuclear family. Marlin (*Finding Nemo*), Django (*Ratatouille*), Stoick the Vast

(*How to Train Your Dragon*), Lord Redbrick (*Gnomeo & Juliet*), Dr. Bill Tenma (*Astro Boy*) Tim Lockwood (*Cloudy with a Chance of Meatballs*) and Buck Cluck (*Chicken Little*) are all single (male) parents. *Hotel Transylvania* (2012) and *Epic* (2013) also begin with their respective father figures Count Dracula and Professor Bomba being recently widowed. Each film's narrative exploits the lingering loss of the mother to create tensions between these fathers and their sole female offspring. Gru in *Despicable Me* even relinquishes his role as antagonist to become a surrogate single father to three adopted children, Margo, Edith and Agnes. A great proportion of child characters in computer-animated films are orphans. Megamind and Metro Man (*Megamind*), Fernando (*Rio*), Pisces (*Shark Bait*), Lewis and Michael 'Goob' Yagoobian (*Meet the Robinsons*), Flynn Rider (*Tangled*) and Tai Lung, Tigress and Po (*Kung Fu Panda*) are all figures devoid of their real biological parents. Of course, Disney animated features have regularly turned to the fragmentation of the family unit to trade in single parenthood as part of its orthodoxy. As Janet Wasko and many other scholars have identified, the ideological commitment towards "family friendly" entertainment across Disney animation is at odds with the classical Disney formula that is predicated upon the absence of complete family structures. Marjorie Worthington points out that "instead of portraying the mother/daughter relationship with all its contradictions, conflicts, and camaraderie, the Disney films sidestep the issue altogether by removing the mother figure."[74] The death of Tiana's father early in Disney's *The Princess and the Frog* (2009) hints that the dissolution of the parental unit and creation of an atypical family structure remains an attractive proposition, one that underscores the heroine's struggles, triumph and courtship of any romantic suitor.

Computer-animated films have not been entirely immune to more traditional depictions of the family. *The Incredibles* and *Shrek 2* source their comedy from familial dysfunction (including strikingly similar sequences set around a dinner table), while

Brave (2012) is emotionally invested in the tribulations of a fractious mother/daughter relationship (though it is worth noting that these three films less readily conform to a "journey" narrative pattern). *Mars Needs Moms!* is a particularly exceptional case. The film reaffirms the family unit as necessary by stressing the 'correct' social structures in which children should be raised, articulating the necessity of a mother and father (unified through marriage). While the aliens harvest maternal figures from Earth to rear their own young, they renounce this practice at the film's climax and admit that children are "meant to be raised by parents." However, the journey narratives of the computer-animated film are typically employed to impress upon the protagonist an unconventional social group. They are subsumed by a collective mentality that functions as a welcome surrogate for the traditional family structure. Dennis Tyler argues that across the majority of Pixar's computer-animated films, the family "is not simply the biological entity of the nuclear family, but rather a grouping of individuals who care for each other whether technically related or not."[75] Tyler draws primarily upon the competing "broken home environments" of Carl and Russell in *Up* to illustrate the contemporary cultural landscape and changing nature of the family. He points out that Carl's raw grief at the death of his wife Ellie, alongside Russell's ambivalent and incomplete homelife (it is hinted that his parents have separated), carves a space for the realisation of a new kind of family unit. This is a pattern of the 'family' repeated at length across the genre. *Kung Fu Panda* mobilises the archetypes of the *wuxia* or "martial hero" genre of Chinese narrative fiction to frame the personal journey of panda protagonist Po. The film utilises the martial arts team of the "Furious Five" to provide Po with a more supportive social network, replacing his otherwise unfulfilling domestic life and naive (adoptive) father figure. In *Monsters vs. Aliens*, bride-to-be Susan Murphy ultimately rejects marriage to spend her life with an oddball army of monstrous characters, while *Rise of the Guardians* (2012) also initiates new models of

responsibility and care among its collection of mythical characters. These relationships bear out Judith Halberstam's argument that many contemporary animated narratives mobilise a particular kind of address towards the "disorderly child." The impulsive attraction of the "flushed away" journey narrative in particular links to Halberstam's suggestion that children "live according to schedules not of their own making."[76] However, computer-animated films more generally challenge the frozen logic of the family and its normative structures, rejecting the two-parent model for the intrigue and excitement of rebellious collective action. Nuclear families are deferred in favour of a menagerie of unusual toys, ants, bees, pigeons, robots, fish, snails, cars and rats, which band together to replace parental figures and trade instead in the values of "group bonding" (Fig. 1.5). The "flushed away" journey narratives of *The Ant Bully* (2006) and *Epic* emotionally rehabilitate their respective protagonists by teaching them the value of kindness and hard labour through unexpected communal activity. Shrunk down to miniature size, both Lucas Nickle and Mary Katherine 'MK' Bomba learn about the world by having to forcibly live so close (and even underneath) its surface. The impact of the collective, and of cross-species alliance and co-operation, has been pursued further in Pixar's recent film, *Monsters University* (2013). The film situates the young and vulnerable Mike Wazowski within the Oozma Kappa fraternity, a group of 'misfit' monsters of differing species and diverse ages. The film circumvents individual-oriented success and delights in the unexpected friendships formed among this failing, rejected collective. As *Monsters University* and many other computer-animated films make clear, viable family units need not be made up of heteronormative nuclear families. Rather, they can emerge from any other affiliation or grouping that provides the emotional nourishment of a more conventional familial structure.

Beyond its contribution to the computer-animated film's internal coherence, "over the hedge" and "flushed away" journey narratives also provide spectators with a

virtual tour of the film's expansive digital terrain. Giuliana Bruno has suggested that such "touristic" journeys in cinema are those of a "devouring gaze [that] is hungry for pleasure and spectacle consumption."[77] Although Bruno is making an analogy between film (and more specifically cinema-going) with tourism as a leisure activity, the scope and breadth of the computer-animated film world also appeals to such spectatorial cravings. The journey narratives map out the virtual space as a backdrop for the characters movement through it, affording spectators an array of imaginative places: the desolate wastelands of *Wall-E*; the underwater ecologies of *Shark Tale* and *Finding Nemo*; the snowy mountains of *Beowulf* and the futuristic townscapes of *Megamind*. But a number of recognisable, real-world locations are also signposted through historically-formed and reproducible iconography. These accent the film's fictional world and encode it with particular socio-cultural and geographical data. The protracted "over the hedge" journey narrative of *Cars 2*, which unfolds against the backdrop of the World Grand Prix worldwide racing event, permits spectators' own round-the-world voyage. The film takes in Japan and Italy, with a climax in England surrounded by what Charlotte Brunsdon has termed the clichéd imagery of a "landmark London."[78] In *Cars 2*, the journey narrative provides spectators with the terms of their travel itinerary. However, this type of narrative structure does not reduce the computer-animated film and its fictional world to nothing more than a series of destinations. The process of spatial exploration casts the spotlight on travelled space and experience, providing a series of geographical encounters indulging in the pleasures of exploration, revelation and discovery. Spectators are invited to identify with the protagonists and their goals, and to simultaneously appreciate the artistry, scope and design of these virtual panoramas. When Remy first glimpses the sumptuous Paris skyline in *Ratatouille* ("Paris? All this time I've been underneath Paris? Wow!"), his incredulity matches the spectators' own sense of wonder. Their "touristic" gaze is satisfied by Remy's

movement across the fictional world that reframes the action, quenching the spectators' thirst for spectacle through the sequence's careful co-ordination as a dramatic reveal (Fig. 1.6).

The strong geographical brevity developed by the computer-animated film and its use of real-life settings has provided a striking example of what Sue Beeton identifies as the underdeveloped area of "film-induced tourism," in which animated landscapes are used as publicity material by tourism organisations.[79] Set predominantly around the area of Sydney Harbour in Australia, computer-animated footage from *Finding Nemo* was used by the Australian Tourism Commission (ATC) with the intention of enticing American travellers back to the country following the uncertainty of the U.S. economy, and knock-on effects of the Iraq war.[80] The Malagasy tourism industry similarly hoped that the release of *Madagascar* (2005) would swell the country's turbulent economy and boost its flagging tourist trade, while *Kung Fu Panda 2* was even awarded a marketing prize by China's National Tourism Administration in November 2011 for promoting the city of Chengdu (following an earthquake in 2008 that devastated the city). But the computer-animated film's travel culture, and the effect of engaging with familiar locations, can be less than straightforward. Bruno points out that the landscapes and townscapes traversed during the film journey are "separate yet connected to the everyday spaces of the viewer-traveller."[81] Real-world locations submitted to re-animation in computer-animated films are dually certain and uncertain, undiscovered and familiar, tangible but liminal. The geographical icons of an everyday city become "iconic" representations within the fabric and artifice of the computer-animated world. The spectator may ultimately have no actual (that is, physical) experience of the (re)presented city beyond its *images of icons*, and so a computer-animated (re)presentation with its *icons of images* suffices because both instances are pictorial ways of representing. Stephen Daniels and Denis Cosgrove argue that a landscape park

"is more palpable but no more real, nor less imaginary, than a landscape painting or poem." This is because representations are not extraneous "illustrations" or images that exist outside of that which they represent, but "constituent images of its meaning or meanings."[82] Computer-animated films can dually draw upon and perpetuate the mythology of the cities that they enable spectators to visit, using the mechanisms of the journey narrative to support its unique language of visual description.

Computer-animated films find generic coherence in the coalescence of the journey narrative (as the primary *syntax*) with a host of *semantic* "building blocks." Journey narratives are stories that are designed to enhance and organise the genre's particular features, providing critics and spectators with a guided tour of (the "building blocks" of) its generic world. Journey narratives hold a specific relationship to one feature of the genre that resides at the point where the *syntactic* and the *semantic* can be said to meet, that of film franchising and sequelisation. Indeed, just as Tudor has identified the incessant process of "sequelling" that has become a feature of horror films since the 1980s, it can be noted that sequels are an especially notable and highly-striking convention of the computer-animated film.[83] As Boingo the Bunny puts it in *Hoodwinked Too! Hood vs. Evil*, "Movies are always better...especially sequels." Computer-animated films are emblematic of the intensification of what Thomas Schatz calls the "franchise mentality" in the conglomerate era of Millennial Hollywood.[84] These films are implicated within discourses of cross-media promotion, pertaining to their exploitability as 'tentpole' projects and popular forms of "merchantainment."[85] Robert Sickels argues that computer-animated films are a particularly "desirable" investment for contemporary movie studios because they lend themselves so well to concomitant ancillary revenue.[86] Promoted across an array of interlinked entertainment and media products, computer-animated film narratives flow across "multiple media platforms," which in turn suggests, as Henry Jenkins puts it, that the film's narrative and

its characters are so large that they "cannot be contained within a single medium."[87] But while the "robust afterlife" of computer-animated films is remarkable plentiful, their post-cinema existence does not unfold entirely within the synergistic home-video entertainment marketplace, or the terrain of subsidiary merchandise and spin-off consumer products.[88] It now increasingly takes place within the confines of the cinema auditorium. Computer-animated films have ushered in a shift towards the *multi-part* rather than strictly *multimedia* franchise.

A computer-animated film rarely exists in isolation. Most have theatrically-released sequels and prequels (and in some instances multi-episode television spin-offs), which expand upon the precedent of an original to pattern the network of supplementary texts that trail in its wake. Such follow-up texts are commonly announced in their multitude, batched together in production slates and pipelines with the promise of more, and more than one, to come. Schatz points out that Pixar's computer-animated films are one of the "dozen or so single-film franchises" operating today. Three out of the five examples he lists have, in fact, gone on to acquire feature-length sequels (*Monsters, Inc.*, *Finding Nemo* and *Cars* spawning *Monsters University*, *Finding Dory* (2015) and *Cars 2*). These films are, of course, in addition to the studio's enormously successful *Toy Story* trilogy (1995-2010). DreamWorks Animation currently has four computer-animated films with (multiple) sequels—*Shrek*, *Madagascar, Kung Fu Panda* and *How to Train Your Dragon* (2010)—with a franchise based on *The Croods* (2013) already planned. Films produced by other studios, such as *Ice Age* (2002), *Hoodwinked!*, *Open Season* (2006), *Happy Feet*, *Happily N'Ever After*, *Space Chimps*, *Cloudy with a Chance of Meatballs*, *Rio* and *Despicable Me* also all now have sequels that, in Carolyne Jess-Cooke's words, permit spectators the pleasure of "re-digesting their favourite storyline or star in a part-two blockbuster."[89]

Theatrically-released computer-animated film sequels have replaced the familiar merchandising policies of the Disney studio, who had cornered the home entertainment market in the modern era through their direct-to-video sequels (that were often inferior in artistic and aesthetic quality, either outsourced beyond the U.S. in countries such as Japan or produced by alternate animation divisions).[90] In particular, the inclusion of short form animation within the Hollywood film industry's increasing computer-animated output has produced a short film template that has awakened the traditions of the Golden Age seven minute cartoon. Standard Pixar practice has been to accompany the theatrical exhibition of its feature-length productions with a short unaffiliated with the narrative of the main feature. Sustaining the studio's own short form origins, these shorts endure as testing grounds for animators and directors to hone their craft prior to feature-length duties. Perhaps less well-known is the terrain inhabited by another set of Pixar films released under the banner of the "Home Entertainment Shorts." These are a secondary cycle of 'spin-off' films packaged on DVDs releases whose mini-narrative arcs dovetail with the Pixar studio's feature-length films. These latter shorts have a standard part of computer-animated film franchising. On occasion, audiences are event related to two computer-animated film sequels for the ticket price of one. Such shorts typically pursue the tribulations of supporting characters (the 2006 *Cars* short *Mater and the Ghostlight*), or show events unfolding parallel to the main narrative (as in the spin-off to *Wall-E* titled *Burn-E* released in 2008). They can even exist as a necessary precursor to (or commonly in lieu of) a feature-length sequel. Examples include *Club Oscar* (2005), *Hammy's Boomerang Adventure* (2006), *Super Rhino* (2009), *Megamind: The Button of Doom* (2011) and *Tangled Ever After* (2012), which function as abridged sequels to *Shark Tale*, *Over the Hedge*, *Bolt*, *Megamind* and *Tangled* respectively.

There are fundamental expectations that the wave of "sequelling" accompanying each computer-animated film must meet. Pat Brereton argues that a film such as *Toy*

Story, for example, cannot end tragically.[91] Resolving the Woody-Buzz conflict, the film incorporates an open-ended story structure in such a way as to both accommodate, and even anticipate, the possibility for more sequels, albeit with minimal disruption to the "chrono-logic" of the original story. Indeed, the *Toy Story* franchise has continued to exploit the lack of fixedness to its narratives. The recent "Toy Story Toons" series of three theatrically-exhibited shorts—*Hawaiian Vacation* (2011), *Small Fry* (2011) and *Partysaurus Rex* (2012)—has sustained and expanded the *Toy Story* mythology long after the events of *Toy Story 3*, satisfying the audience's desire (and paving the way) for more of the same. Yet the multi-film form of computer-animated films is particularly conducive to the journey narrative structure. On one hand, each new computer-animated film affords the opportunity for another journey to occur within a broader fictional universe. Each additive segment of travel and motion implies a fictional space that has organised itself into a series of stories. On the other hand, the journey itself can be staged as a broader meta-narrative stretched across the franchise, and continued seamlessly from one computer-animated instalment to the next. The journey narrative established in *Madagascar*, for example, has been notably resistant to closure, and become well-supported by the structure of the franchise's (to date) three feature-films. The first in the trilogy establishes the moment of "flushed away" disjuncture, as anthropomorphic animals Alex, Marty, Melman and Gloria are mistakenly shipped from a New York zoo and become marooned on distant Madagascar. The 2008 sequel (subtitled "Escape to Africa" and advertised with the tagline "Still Together. Still Lost"), takes place as the animals attempt to flee the island, only to crash-land in the African plains. *Merry Madagascar* (2009), a twenty-two minute television special broadcast on NBC, transports spectators to sometime between the first and second films (thus becoming a "interquel," "intraquel" or "midquel").[92] The plot of *Merry Madagascar* is the resumption of the quartet's futile attempts to flee Madagascar, this

time in a homemade hot air balloon ("It may not be pretty, but we're headed to the city!"). The third feature-length instalment, *Madagascar 3: Europe's Most Wanted* (2012), continues the original chronology and follows the animals' ongoing attempts to return to Central Park Zoo from Africa, trailing them from Monte Carlo to Rome and finally London. Enabling the spectator's "touristic" exploration of the virtual space, the final *Madagascar* film climaxes with the lost animals rejecting the sanctuary of captivity, and permanently joining a travelling circus. Now perpetual voyagers, Alex, Marty, Melman and Gloria ensure that the journey narrative, which first began in the original film and was subsequently extended and expanded across the franchise, will always remain in motion.

The concepts of genre and franchising share the common premise that individual texts contain persistent and formulaic elements, but that they are also reliant upon particular points of deviation and departure. While they are not solely a product of economic factors, franchises are nonetheless signs of the potent and pervasive economic pressures exerted on contemporary Hollywood cinema. If the film "ain't broke, don't fix it." Just repeat it. King argues that Hollywood today commonly "eschews genre logic" and places greater stress upon a franchise mentality and the lure of "series, cycles, remakes and sequels."[93] Computer-animated films lend themselves to franchising and enable individual studios to emphasise their own "legally restricted brand-name or franchise products."[94] But the genre-status of computer-animated films is itself partially identified by its own turn towards the franchise. Its "genre logic" is, in other words, rooted in the fact these films rarely exist in singular form: not only because they are constituents of a genre, but because a growing proportion are extensively sequelised and designed to be multipart film productions. The repackaging of the journey narrative across both smaller cycles and film series, and throughout the genre more broadly, makes certain demands upon spectators' knowledge of the texts that surround it. The

franchising and excessive "sequelling" of computer-animated films therefore entails a high degree of intertextuality, a concept that, like that of genre, involves the dissolving of discrete textual borders. Indeed, Robert Allen and Douglas Gomery have defined genre as a particular kind of "intertextual filmic system," and as an important "intertextual background set that generates definite audience expectations."[95] Identifying a text as belonging to a genre provides spectators with a key intertextual framework, and an expectation about its generic verisimilitude. Intertextuality is therefore responsible for a certain degree of genre literacy, inciting spectators' knowledge of the layers of generic sediment accrued across each encounter. This chapter suggests how textual intercourse and dialogism between texts not only anchors generic content, but is a constitutive feature of the genre and one of its primary generic features. It is the many intertextual chains of reference that play a significant role in raising to a higher pitch of emphasis the computer-animated film's unwavering love of the cinema.

Swimming in a Sea of Stories: intertextuality and cinephilia

> Haroun sighed. 'I don't think I'll ever get the hang of this place. What do the fish do, anyway?' Iff replied that the Plentimaw Fishes were what he called 'hunger artists'—'Because when they are hungry they swallow stories through every mouth, and in their innards miracles occur; a little bit of one story joins on to an idea from another, and hey presto, when they spew the stories out they are not old tales but new ones. Nothing comes from nothing, Thieflet; no story comes from nowhere; new stories are born from old—it is the new combinations that make them new.'[96]
> ----- Salman Rushdie, *Haroun and the Sea of Stories*
>
> Just keep swimming.
> ----- Dory, *Finding Nemo*

Computer-animated films are one of the most active intertextual fields of contemporary visual culture. While intertextual quotation and reference have enjoyed a lengthy tradition across multiple forms of animation—from the allusions to famous film titles, events and celebrities in Warner Brothers cartoons in the studio-era to the deeply intertextual world of *The Simpsons*—the density of allusions to popular culture and multiple media texts in computer-animated films is vast. Whether organically embedded or obtrusively signposted, whether affectionate homage or irreverent parody, computer-animated films routinely underscore the co-presence of residual and implicit texts of the past. This chapter observes the diverse ways that intertextuality in the computer-animated film works. It reads these films through their intertextual references, and suggests ways of understanding the form of spectatorial engagement such (inter)textual devices solicit. Such allusions offer a range of possibilities that add to the spectators' viewing experience of the computer-animated film. As Michael Iampolski argues, intertextuality "superimposes text on text, meaning on meaning," animating the text into intrigue.[97] If an animator breathes life into the inanimate made animate, then the echoes of texts *already articulated* reverberate with a similar force. Computer-animated films celebrate the terms of the re-presented. To make an encounter with a text intertextual is to enliven and animate it, to rhetorically impart a form of purpose or volition to the

methods by which it can be read. The computer-animated film might therefore be understood as a kind of *palimpsest*. According to Gérard Genette, a palimpsest constitutes a "written document, usually on vellum or parchment that has been written upon several times, often with the remnants of erased writing still visible."[98] There is a clear analogue here to the cel-animation process: the trace inking of drawings onto transparent cels, the overlaying of these cels to build up a scene's action and movement, and the reuse of the cleaned film cel "several times." The presence-absence relationship within the textual archaeology of the palimpsest positions it as an intertext. The remnants or trace of an original—however visible—solicit the reader to read and recall a previous text that connects to the current visible one. The palimpsest is, as Genette puts it, "literature in the second degree," and it is this interminable quality of citing and reciting that also anticipates the visual rhetoric of the computer-animated film.

Laced with a multitude of intertextual strategies, the palimpsestic computer-animated film reverberates with the hum of other texts. It is entrusted to the spectator to pick up on the intertextual vibrations offered and to respond to the contours of its intertextual shape. Brian L. Ott argues that with the animated television programme *South Park*, viewers do not so much "follow" the narrative as "surf" for the next allusion, reference or quotation, and comb each episode for the "next opportunity to move outside the text."[99] The result is that viewers "*author* the show more than they *watch* it."[100] Such an interpretation of intertextuality raises significant questions about the role of originality, autonomy, plagiarism and inventiveness. This is something Jenna Ng describes as the "knife-edge" upon which intertextual citation often sits, straddling a divide between "authentic flattery" and "pedestrian rip-off."[101] But the spectatorial pleasure involved in intertextuality also points to the spectators' function within any network of intertextual gestures. Computer-animated films employ intertextuality as a rewarding, pleasurable viewing exercise. These films participate in the promotion and

orientation of the spectator as connoisseur, functioning as textual invitations for a more active spectatorship. It has come to be expected that Pixar films, in particular, will be replete with an abundance of intertextual references to both its past and future releases, challenging spectators to tease out such allusions embedded within its narratives. The promotion for *Monsters University* made spectators explicitly aware of the many references to the studio's as-yet incomplete feature *The Good Dinosaur* (2014). In June 2013, the director of *The Good Dinosaur*, Bob Peterson, announced on social media sites "Attention all you MU [*Monsters University*] cine-palaeontologists – follow the toys!" This call to intertextual arms invited spectators to pay more attentive notice to the detail and design of *Monsters University*, which would yield predictive clues to the characters of Pixar's next feature-length computer-animated film.

When discussing this type of cross-text referencing in *Wall-E* and the film's place within Pixar's extensive intertextual history, Christopher Todd Anderson notes that:

> In a twist of intertextual irony that has become something of a hallmark in Pixar movies, Pixar's own products appear among Wall-E's garbage. Likely missed by casual theatre-goers but spotted by sharp-eyed, freeze-framing DVD watchers, various characters, objects, and logos from *Cars*, *Toy Story*, *Up*, and other Pixar films are mixed in with the garbage Wall-E searches through and on the shelves full of objects he collects.[102]

Just as love-interest EVE scans the desolate Earth in search of signs of organic life, computer-animated films encourage and invite spectators to likewise scan their vast animated landscapes for its own hidden treasures. The presence of *Toy Story*'s Rex the Dinosaur and a doll version of Mike Wazowski from *Monsters, Inc.* tucked away almost imperceptibly amid the collected cultural detritus, are intertextual additions that can be hard to glimpse upon first viewing. But homevideo practices have afforded greater control over the spectators' compulsive process of intertextual excavation. Laura Mulvey argues that DVD technology has enabled the fragmentation of film's linear

narrative "into favourite moments or scenes."[103] Freeze-frame, slow motion and scanning features all come together to afford the spectator increasing "possession" of what was previously a highly elusive film image.[104] These same navigational structures can also be used for any number of intertextual purposes. The flow of the film is halted to confirm the computer-animated film's dialogical engagement with another text of its kind. Thus technology fuels the spectators' own delight in the thrill of the intertextual chase.

Beyond the intertextual surround of supplementary material contained on DVDs that guide how spectators may watch and re-watch the primary text, computer-animated films thus exploit contemporary "Easter egg" culture and consumer activity predicated upon new modes of interactive spectatorship.[105] The presence of bonus, hidden or embedded narrative content is designed to complement and extend the pleasures of the computer-animated film. Tyler Weaver has suggested (when noting the recent "criss-crossing" and meta-storytelling of the Marvel comic book film universe) that "one has to tread carefully with balancing stories and Easter eggs."[106] Intertextuality thus marks a return to the negotiation of tensions between narrative structure and visual spectacle, which has preoccupied film scholars of early cinema, and been sustained in the digital age. The computer-animated film spectator is, however, invited to participate in the ostentatious, attention-seeking excess of the spectacle. These films continue to stimulate an intensified exchange of information and trade in trivia. Such activities are typically undertaken online through discussion boards, publicly-authored encyclopaedias and forums. Popular websites such as *Pixar Times*, *Pixar Planet* and *PixarWiki* have been devoted to satisfying the "sharp-eyed" form of spectatorship that Pixar's computer-animated films encourage. They provide a discursive space that exists apart from 'normal' spectatorship ("casual theatre-goers"), and allows viewers to constructively utilise their specialist knowledge to trade in shared cultural capital. Such authored

discussion spaces are continually shifting and adapting with each new release and intertextual discovery, and in Umberto Eco's terms serve to provide "the only way to cope with the burden of our encyclopedical filmic competence"[107]

The intertextuality of Pixar's films is significant for a myriad of reasons. M. Keith Booker argues that the "familial relations" and intertextual connections between Pixar films "also serve as a sort of branding device that strengthens the Pixar name, which itself has considerable market value."[108] The studio's brand of intertextuality includes references to the number A113, the classroom at California Institute of the Arts (CalArts) where John Lasseter shared classes in Character Animation with future animators Brad Bird, John Musker, Henry Selick and Tim Burton during the 1970s. Booker has also identified the recurring presence of U.S comic actor and voice artist John Ratzenberger—who spectators now expect will appear in a minor or supporting role—as one of the key ways in which "each Pixar film works in allusions to earlier films."[109] Ratzenberger's casting and his privileged place across the Pixar films was made a particular feature of *Cars*. During its closing credits, a drive-in movie theatre is showing motorvehicle versions of previous Pixar films, here titled "Toy Car Story" and "Monster Trucks, Inc." (by the release of *Cars 2*, the same theatre was now showing "The Incredimobiles"). This sequence from *Cars* conforms to what John Fiske labels "horizontal" intertextuality, insofar as it pertains to relations between (Pixar) texts that are traditionally linked along the axis of character, content and genre. By comparison, devices of "vertical" intertextuality refer to the relationship "between a primary text [...] and other texts of a different type that refer explicitly to it."[110] But the "horizontal" relationship between each Pixar film becomes further secured by the presence of Ratzenberger, whose *Cars* character, Mack the Truck, watches with increasing unease those scenes that include the actor's previous computer-animated appearances. As Mack retorts, "They're just using the same actor over and over. What kind of cut-rate

production is this?" This sequence from *Cars* additionally spotlights the ways in which spectators are increasingly invited to respond to the heightened cultural and media literacy of the animators, whose 'cleverness' continually redefines the rules of the intertextual game. The intertextual orientation of a group of film-makers who share their taste for quotation is evidenced by the genre's intertextual enterprise. In the case of Pixar, intertextuality bears out the input of the studio's culturally-informed employees or "fraternity of geeks," as one of its animators Ralph Eggleston coined it.[111]

The medium of animation certainly lends itself to this kind of intertextual commentary. In his analysis of intertextuality in *The Simpsons*, Jonathan Gray argues that when scenarios, characters and dialogue *as we might know them to be* in their primary context are "turned into a cartoon," they are suddenly seen through "fresh eyes."[112] The intertextual chain that links the live-action original with computer-animated facsimile (to thus (re)produce a computer-animated original) is lengthened by their increased ontological distance. Discussing the intertextuality of Golden Age American cartoons, Michael Dunne suggests that animation is able to afford "a second level of aesthetic comparison and contrast" through its distinct visual language, which is fundamental to the medium's inventive, creative re-appropriation.[113] Even when the original already comes in animated form (before it is made intertextually present in computer-animation), the same kinds of pleasures are involved in the shift in levels of "aesthetic comparison." *Shrek*, *The Polar Express*, *The Magic Roundabout*, *The Ant Bully*, *TMNT* (2007), *Horton Hears a Who!*, *Astro Boy* (2009) and *Cloudy with a Chance of Meatballs* are all computer-animated film adaptations of illustrated books or television series. Most notably, however, *The Adventures of Tintin: The Secret of the Unicorn* includes a fleeting intertextual citation of the "clear-line" (*ligne claire*) caricatured style pioneered by Tintin's original cartoonist Hergé. The film opens amid a bustling street market in Brussels, Belgium. The new computer-animated incarnation of

the heroic journalist—one that omits the character's famous graphic design for a new photoreal digital aesthetic—is sitting for a likeness, painted by a figure who bears physical resemblance to Hergé himself ("your face is familiar. Have I drawn you before?"). When the painting is finally revealed upon its completion, the subsequent colour image exhibits Hergé's *ligne claire* drawing style, made famous from the original comic book and subsequent television adaptations *Hergé's Adventures of Tintin* (1959-64) and *The Adventures of Tintin* (1991-2) (Fig. 1.7). In this short sequence, the spectator is invited to identify through intertextuality the ways in which Tintin has been turned (back) into a cartoon. As the street artist announces to his subject, "I believe I have captured something of your likeness."

Beyond its stockpile of intertextual quotations, computer-animated films offer new articulations of intertextuality. Intertextual referencing is a necessary function of these films' production, rather than simply a pleasurable flourish designed to reward attentive spectatorship. Jens Fredslund argues that Pixar's "heavily allusive and intertextual" computer-animated short film *Boundin'* (2004) is charged with an "ambivalent originality" that stems from its digital mode of production. Fredslund notes that:

> Three-dimensional computer animation works on the basis of a created figure or object which is rendered in three dimensions and after that programmed to act or move in a certain way. In other words, the core programming somehow remains the same, even when the object behaves differently. So what consequences does it have, then, when one learns that the vintage Ford T in *Boundin'* is directly lifted from the Pixar animated feature film *Cars*? And that the human arm which pulls the fluffy main character sheep off screen actually belongs to the dentist in the Pixar film *Finding Nemo*? These are not just references, or passages which resemble passages in other works of art. They are the same as them, and their programmed base is identical.[114]

This kind of unique intertextual register—in which digital objects migrate from one computer-animated film to another whilst keeping their "programmed base"—is certainly widely operational. Another Pixar short *Presto* (2007), which tells the story of

an increasingly violent disagreement over a carrot between pompous magician Alec Azam and his rabbit Presto, also relies upon a technological instance of intertextuality in which "for a brief moment, gestures in two different works of art are somehow completely identical."[115] The body of Alec Azam is that of Talon Labarthe, Chef Skinner's lawyer in *Ratatouille*, while the theatre patrons and even the carrot were pre-existing objects similarly re-inserted from the fictional word of Pixar's culinary comedy. Even the auditorium in *Presto* was subsequently re-used in *Up* as the theatre in which explorer Charles Muntz ill-fatedly reveals "the monster of Paradise Falls."

From Metro-Goldwyn-Mayer's *Happy Harmonies* series (1934-8) and Warner Brothers cartoons, through to Japanese *anime* and feature-length Disney, the re-use of animation has been widespread among many forms of animation, just as the creative recycling of particular sets and costumes between large scale productions was commonplace during the Classical Hollywood period. But the shared "programmed base" of a particular kind of intertextual reference in computer-animated films creates a more intimate connection between the poles of primary and secondary, same and different, direct and indirect. The intertextual recycling of material in this context is especially conducive to the production of multiple sequels at the cornerstone of the genre's franchise mentality. Any number of characters and environments can be summoned from the copious digital archives, and made to perform in the latest cinematic instalment as part of a cost-effective economy of production. David A. Price notes that *Toy Story 2* "reused digital elements from *Toy Story*, the making of which had left behind a kind of digital backlot." Price admits, however, that Pixar's "prevailing culture of perfectionism meant that it reused less of *Toy Story* than might be expected," and certain characters were revised and upgraded with the benefit of technological advancements in the four years between the two films.[116] However, the ability of computer-animated films to intertextually plunder their own digital archives offers a

greater economy of digital content production, and challenges the very concept of how intertextuality might be defined in the digital age.

Intertextuality and the migration of material across textual borders in the computer-animated film can ultimately be approached in a variety of different ways. It can be discussed from a position of spectatorial delight in identifying the plurality of texts that surround one another, or in relation to the industrial considerations that position computer-animated films as efficient, intertextual recyclers of their own digital material. It may also be employed as a tool to determine (often dubious) thematic similarities between pairs of films—*Shark Tale*/*Finding Nemo*/*Shark Bait*; *Madagascar*/*The Wild*; *Ratatouille*/*Flushed Away* and *Ice Age*/*Frozen* (2013)—or the flagrant impeachment of intellectual property, including the rise of the transnational computer-animated "mockbuster."[117] However, this chapter argues that intertextuality is a particular manifestation of the genre's cinephilia, and that through their prominent web of intertextual citations, computer-animated films encourage a cinephilic form of spectatorial engagement. These intertextual quotations draw the spectator into its film world by being a *world of film*. Replete with allusions to the cinema, such references do not rupture the genre's generic cohesion but craft a space in which images of cinema's past and technologies of the present collide. Manifesting as feature-length cinephilic tributes, computer-animated films offer a riposte to Susan Sontag's influential essay "The Decay of Cinema," which mourned the demise of any strong cinephilic interest in films in the mid-1990s. Claiming that "the love of cinema has waned," Sontag speculated that "if cinema can be resurrected, it will only be through the birth of a new kind of cine-love."[118] Computer-animated films have aroused and awakened cinephilia by articulating their own "cine-love," which takes as the objects of their affection the history, technologies and traditions of the cinema and cinema-going. Cinephilia in the computer-animated film era confronts and reworks its own traditions of nostalgia, its

lingering preoccupation with "pastness" and, in Paul Willemen's terms, the "kind of necrophilia" associated with "something that is dead, past, but alive in memory."[119] Rather than grieving over cinephilia's decay as a film-going paradise lost, computer-animated films utilise intertextuality to recollect a cinematic lineage and become archives of film memories. Under such intertextual conditions, the history of film (the history of the moving image) is conceived as a "limitless warehouse" from which images, expressions, characters, sequences and sound effects can all be routinely "plundered."[120] Cinephilia's return to life via the intertextuality of computer-animated films is therefore an energising act of re-animation. It still has the potential for nostalgia, but it replaces post-Sontagian melancholy regarding bleakness, longing, hopelessness and reminiscence for a bygone era, with formal strategies of intertextuality specific to the computer-animated film's love for the cinema.

Intertextuality and intertextual readings account for many of the "pleasure-giving moments or fleeting details" in the computer-animated film that lie, for Willemen, at the cornerstone of cinephilia (whichever side of the "knife-edge" they may fall). Intertextuality stimulates a pleasurable cinephilic dissecting of the intertext, grounded in a pact of what Ng calls "secret sharer" understanding between film and spectator.[121] Leslie Felperin's suggestion that the viewers of *Shark Tale* would "most likely *get off* on spotting all the movie allusions," as well as Barker's equating of the intertextual quotations contained in *Antz* to "bonuses to experienced viewers" also bears out this point.[122] While the trading of information, clues and knowledges between texts drives cinephilic discourse, it is not necessary for the spectator to know the origins and implications of each computer-animated allusion, nor is there any correct method of reading the text itself. As Roland Barthes reminds us, just as the original phrasing of 'text' suggests a tissue or fabric woven from the "'already written' and the 'already read'," spectators (as co-producers) can use their own intertextual knowledge to make

sense of a film's diverse tributes and references.[123] Computer-animated films ask to be *worked out* and *worked through* by cinephiles according to their strong intertextual identity and content. In an act of movie "buffery," spectators are encouraged to dislocate intertextual moments from the computer-animated context given, and authenticate it according to what they believe to be the correct (original) one drawn from their media memory.

To try to supply an exhaustive list of every film reference, or gesture towards cinema, contained in the computer-animated film is impractical: doomed to failure by the range of variables residing in spectatorship, covertness and fortuity. When counting the intertextual quotations in *Antz*, Barker admits that "there are probably more than I spotted."[124] The genre's intertextual strategies include *homage* (what Thomas M. Leitch calls "secondary texts whose value depends on their relation to the primary texts they gloss"), and the techniques of *memorialisation* described by Noel Carroll ("the loving evocation through imitation and exaggeration of the way genres were").[125] However, the genre's portrayal of its own "cine-love" is most overtly reflected in the representation of individual cinephiles: those characters that effectively act out cinephilic behaviour and express a personal affection (even an obsessively personal relationship) towards the cinema. These outwardly cinephilic characters embody the genre's broader "cine-love" which "frolics merrily in the realm of the intertextual," and reconstitute the kinds of cinephilic response to the genre that is required of spectators.[126] While cinephilia, as Rashna Wadia Richards argues, has been aligned with an "uncritical buffism" and condemned alongside the guilty pleasures of scopophilia, voyeurism and fetishism," computer-animated films offer a renewed enthusiasm for the pleasures of cinephilic spectatorship.

The narratives of *Flushed Away* and *Wall-E* capture in different ways the cinephilic fascination of an individual character. During the opening sequence to

Flushed Away, domesticated rodent Roddy—left alone by his owners for the summer—awakes from his slumber and attends to a checklist of activities to complete during the course of a day, culminating in the final entry: movie premiere. However, *Flushed Away* destabilises the "media-sensitive glamour and glitter" upon which exotic Hollywood premieres traditionally rely.[127] Although he dresses up in a tuxedo for the occasion, Roddy's premiere screening originates from a single DVD pulled from his substantial archive of entertainment. Re-negotiating the public-as-private severs the act of film watching from the utopian experience of movie-going in the cinema auditorium, and repositions it within the context of a collectible cinephilic fetish object. *Flushed Away* presents Roddy in ways that evoke the cinephile's "obsessive film collection."[128] It is clear that Roddy is himself a cinephile. He re-enacts the behaviour of his chosen film (a James Bond parody titled "Die Again Tomorrow") in a manner that suggests that this is not its first screening. Furthermore, the "technological performativity of digitally remastered sounds and images" that Thomas Elsaesser attaches to the spectacle of the DVD is physicalised by Roddy's own performance during the premiere's preparation.[129] As the rodent browses the library of titles for a suitable feature-film to premiere, an extravagant slide past his considerable collection physicalises his passion, and status as archivist (Fig. 1.8).

The names of the DVD titles glimpsed as Roddy slides past are equally—and intertextually—significant. Among the playfully fictitious titles organised for his perusal, copies of the computer-animated films *Antz*, *Shrek*, *Shrek 2*, *Shark Tale*, *Madagascar* and *Over the Hedge* can also be spotted. These intertextual references are to be expected. Throughout *Flushed Away*, Roddy is a conduit for allusions to other computer-animated films, from a fish asking him if he has "seen his dad" (a verbal gesture to *Finding Nemo*), to the stuffed toy dolls of Alex the Lion (*Madagascar*) and Donkey (*Shrek*) that surround his cage. By referring to the cultural popularity, extended

shelf-life and profitable post-cinema existence of computer animated films, *Flushed Away* rewards the cinephilic engagement rooted in DVD viewing. Computer-animated films are, in Chuck Tryon's words, part of "a new breed of cinephilia" that has been created whereby spectators can "position themselves as insiders with a unique knowledge of film culture."[130] Indeed, this particular sequence from *Flushed Away* satisfies what Tryon calls "the emerging figure of the film geek," and in particular the democratisation of such cinephiles as a result of new modes of reading afforded by DVD playback.[131] It is only when it is paused and replayed, or through the swapping of information by cinephiles, that the contents of Roddy's DVD collection is disclosed. The film is thus in a feedback loop with its own cinephilia. *Flushed Away* invites cinephilic engagement by being about cinephilia and its practices, and it is the intertextuality of the scene that solicits this kind of attentive scrutiny.

Drehli Robnik makes a case for a specific type of "videophilia," in which the cinephile isolates their favourite image from "landscapes of textual ruins," religiously trawling the home video vista to fetishize its key images.[132] Aided by the pausing and (re)playing facilities that disrupt narrative temporality (to disturb the sacred film text), the fetishized image "allows itself to be taken apart and reconfigured, i.e., to be remembered."[133] This kind of videophile cinephilia is evidently participatory: like the intertextual strategies that furnish the computer-animated films genre's "cine-love," it involves the spectator's 'animation' of moments amid these ruins. *Wall-E* brings the impulses of the videophile into sharper focus. The eponymous robot is foremost confirmed as a cinephile because his "cine-love," as Mary Ann Doane puts it, is one attached to "the detail, the moment, the trace, the gesture."[134] With a disregard for (or lack of awareness of) any narrative integrity, Wall-E watches and replays in isolation the musical numbers 'Put On Your Sunday Clothes' and 'It Only Takes A Moment' from a VHS copy of *Hello Dolly!* (1969) that he discovers among the abandoned

wasteland. Wall-E is what Robnik would label as a "media parasite," an empowered videophile whose self-indulgent passion materialises in his extracting of cherished sequences from the film "by remote control like souvenirs."[135] The figure of the souvenir is given additional weight through the outmoded VHS format on which he watches *Hello Dolly!* Relegated by the "meteoric" rise of DVD (and since compounded by Blu-Ray technology), the "economic handwriting was on the wall" for the VHS format throughout the 1990s, in which it could not compete with the pristine image quality of DVDs and other hi-definition home-video products.[136] Analogue video playback is defined by Robnik according to its "characteristic 'grain'," and the flawed image quality and visual blemishes of Wall-E's VHS are (literally) magnified during its numerous screenings.[137]

Contextualised by *Wall-E*'s 2008 release date, but also the narrative's futuristic 2805 setting, *Hello, Dolly!* remains an audiovisual memento of a cinema past (and now passed): an authentic keepsake discovered, revived, stored and reconfigured in a typical act of "cine-love." Wall-E is transfixed by the film's action, staring motionless at the grainy images enlarged on his makeshift screen. EVE is coerced into a literally vegetative state—akin to that of a somnambulist—by preserving growing plant life within her curved sleek shell. But Wall-E's daze is prompted by the cine-magic of *Hello Dolly!* and its intertextual presence. *Wall-E* repositions "cine-love" within the ritualism and intimate space of the home. Sontag suggested that to be "kidnapped" by film required the darkened space of the movie theatre, and several computer-animated films include sequences that unfold inside a cinema auditorium. The opening sequences to *Planet 51* and *A Monster in Paris* (2011) invoke the magical cinema-going experience in conjunction with a narratological device that Werner Wolf has called the "missing opening frame."[138] This is a fooling technique employed to mark the beginning of a fiction as a temporal and spatial false start. The initial and supposedly fictional reality is

belatedly exposed as an "embedded" framing device, which soon gives way to the 'truthful' (and thus correct) level of fiction. In *Planet 51*, the frenetic action of an 'alien' attack is revealed to be nothing more than a scene from the fictional film "Humaniacs," enjoyed by an increasingly hysterical movie audience. The opening to *A Monster in Paris* unfolds within the cinephilic imagination of shy movie projectionist Emile, who projects his own fantasies of a romantic life with love interest Maud.

But if *Flushed Away* shows Roddy's active film life through his physical gyrations, then *Wall-E* delights in the domesticity of home video, which is shown to be more than capable of sustaining a lasting emotional attachment to cinema's past. For example, *Flushed Away* employs non-diegetic music to enhance the occasion of the event. In *Wall-E* nothing is made to compete with the audiovisual impact of the screened film, and the sounds of *Hello Dolly!* echo all around Wall-E's cluttered abode. In response, the robot becomes entirely absorbed in the romance of the theatrical experience, the film's images not just reflected in his binocular eyes, but doubled in the glass of each of his lenses (Fig. 1.9). The screening of *Hello Dolly!* stimulates his involuntary movement as he automatically clasps his hands together whilst his gaze remains fixed on the action. A robot whose movements are governed by pre-programmed directives, this involuntary gesture 'speaks' his "cine-love." In this way, Wall-E's actions foreshadow the opening to Pixar's next film *Up*, in which a young Carl Fredericksen stares in similar adoration at grainy newreel footage of Explorer Charles Muntz. Like his idol, Carl wears goggles and re-enacts his signature 'thumbs up' gesture when delivering his motto "Adventure is out there!" It is perhaps significant that this scene leads directly into his first meeting with Ellie, and their shared "cine-love" structures the narrative of their early courtship. Like Carl and Ellie, Wall-E's daily routine is organised around a film and its possible effects. Not only do the musical productions from *Hello Dolly!* provide the pleasurable soundtrack to his otherwise

monotonous labour, they function as an audiovisual respite from it. The *Hello Dolly!* videotape itself might be subject to material decay (the clarity of its image already looks worn through its repetitive playback), but Wall-E's cinephilic behaviour towards it has proved to be much more enduring.

Wall-E preserves Gene Kelly's 1969 musical in other ways. The intertextual referencing of the film aligns its narrative with the new viewing habits that involve the manipulation, compression and adaptation of a film as it is temporally and spatially reconfigured. In the contemporary era of "the download, the file swap, the sampling, re-editing and re-mounting of story line, characters, and genre," Wall-E becomes an increasingly interesting figure.[139] He uses his own technological capabilities both to become his own cinephilic storage facility, and to create the cinephile's overwhelming sense of "place, occasion and moment."[140] Wall-E can record, edit and share favoured, fleeting moments from *Hello Dolly!*, appropriating them within his in-built 'record' and 'playback' functions within his mechanical body. Like the ruins through which he trawls, Wall-E can retrieve the musical numbers from *Hello Dolly!* and elevate them to position of prominence, thereby intrinsically 'authoring' the film's performance. He replays the soundtrack when gazing up towards the stars to both personalise and re-stage the dreamlike qualities of *Hello Dolly!* within the film's own fictional world. He then takes pride in screening the footage upon EVE's arrival (who becomes similarly entranced by the power of the Hollywood musical). Walter C. Metz argues that the little robot Wall-E is a "parental cinephile," and that "above all, [he is] a really great film professor."[141] *Wall-E* identifies "cine-love" as a passion ably passed between characters, and the idiosyncrasies of the cinephile's individual relationship with the cinema become shared. When Wall-E himself falls into psychological stasis, EVE strives to re-awaken him by playing once more the re-mastered *Hello Dolly!* footage to stimulate his cinephilic energy. While a cinephilic moment "when encountered in a film, spark

something" between spectator and text, *Wall-E* uses such a moment for its similarly charging, enlivening properties.[142] Moreover, in the robot Wall-E, cinephilia becomes an aspect of his mechanical being, and his literal embodiment of an otherwise fleeting cinephilic moment permits this earlier form of cinema to be continually recalled and remembered.

Computer-animated films operate as audiovisual museums whose specialist subject is film history, demonstrating an expansive media memory acquired and honed over time. They play on a shared achieve of media memory, delighting "as if both filmmaker and spectator were members of a vast audiovisual library."[143] Computer-animated films transparently borrow, beg and steal from a multitude of cultural sources and media sources, but it is within the realm of cinema that they have discovered particularly fruitful audiovisual references points. The multitude of intertextual devices networked across computer-animated films is one of the main features of the genre, and one of the genre's organising principles. Spectators are invited to share in an open and animated cinephilia that Sontag in her obituary to cinephilia in the mid-1990s suggested had long since faded. However, the next chapter shifts the spotlight from the broader generic world of computer-animated films to the specific kinds of world-building activities that unfold within the genre. These computer-animated film worlds are unique kinds of virtual environments that assume their place within a continuum of dynamic and diverse animated screen worlds.

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[1] Brad Bird quoted in Tyler Weaver, *Comics for Film, Games, and Animation: Using Comics to Construct Your Transmedia Storyworld* (Burlington, MA: Focal Press, 2013), 231.
[2] Andrew Darley, "Bones of Contention: Thoughts on the Study of Animation," *animation: an interdisciplinary journal* 2, no. 63 (2007): 69.
[3] Steve Neale, "Introduction," in *Genre and Contemporary Hollywood*, ed. Steve Neale (London: BFI Publishing, 2002), 1.
[4] Ibid.
[5] Timothy Corrigan, "Introduction: Movies and the 2000s," in *American Cinema of the 2000s: Themes and Variations*, ed. Timothy Corrigan (New Jersey: Rutgers University Press, 2012), 14-15.
[6] Daniel Goldmark, *Tunes for 'toons: Music and the Hollywood Cartoon* (Berkeley: University of California Press, 2005), 3.

[7] Esther Leslie has, for example, called animation an "artistic genre." Esther Leslie, *Hollywood Flatlands: Animation, Critical Theory and the Avant-Garde* (London: Verso, 2002), 202.
[8] For examples of the iconographic approach to genre, see Jim Kitses, *Horizons West: Anthony Mann, Budd Boetticher, Sam Peckinpah: Studies of Authorship within the Western* (Bloomington: Indiana University Press, 1969); Lawrence Alloway, *Violent America: The Movies 1946-1964* (New York: Museum of Modern Art, 1971); Colin McArthur, *Underworld USA* (New York: Viking Press, 1972).
[9] M. Keith Booker, *Disney, Pixar, and the Hidden Messages of Children's Films* (California: Greenwood Publishing Group, 2010), 84, 110.
[10] Paul Wells, *Understanding Animation* (London: Routledge, 1998), 171.
[11] David Bordwell, "Film Futures," *SubStance* 31, no. 1 (2002): 88-104.
[12] Dan Harries, "Film Parody and the Resuscitation of Genre," in *Genre and Contemporary Hollywood*, 281.
[13] Barry Langford, *Film Genre: Hollywood and Beyond* (Edinburgh: Edinburgh University Press, 2005), 74-75.
[14] Elliot West, *The Essential West: Collected Essays* (Oklahoma: University of Oklahoma Press, 2012), 290.
[15] Langford, *Film Genre*, 1.
[16] Rick Altman, *Film/Genre* (London: BFI Publishing, 1999), 89.
[17] Harries, "Film Parody and the Resuscitation of Genre," 281.
[18] Ed Buscombe, "The Idea of Genre in the American Cinema." *Screen* 11, no. 2 (March-April 1970): 45.
[19] Geoff King, *New Hollywood Cinema* (London: I.B. Tauris, 2002), 119.
[20] Nichola Dobson, *The A to Z of Animation and Cartoons* (Maryland: Scarecrow Press, 2009), 11.
[21] Paul Wells, *Animation: Genre and Authorship* (London: Wallflower Press, 2002), 66.
[22] Ibid., 46.
[23] Thomas Elsaesser and Malte Hagener, *Film Theory: An Introduction Through the Senses* (New York: Routledge, 2010), 170.
[24] J.P. Telotte, *Animating Space: From Mickey to Wall-E* (Kentucky: University Press of Kentucky, 2010), 205.
[25] Jason Mittel, "A Cultural Approach to Television Genre Theory" in *Thinking Outside the Box: A Contemporary Television Genre Reader*, eds. Gary Richard Edgerton and Brian Geoffrey Rose (Kentucky: University of Kentucky, 2005), 40.
[26] See Janet Wasko, *Understanding Disney: The Manufacture of Fantasy* (Cambridge: Polity, 2001).
[27] Chris Pallant, "Neo-Disney: Recent developments in Disney feature animation," *New Cinemas: Journal of Contemporary Film* 8, no. 2 (2010): 103-17.
[28] Ibid., 106.
[29] Jessica Tiffin, *Marvelous Geometry: Narrative and Metafiction in Modern Fairytale* (Detroit: Wayne State University Press, 2009), 230.
[30] Henry Giroux and Grace Pollock, *The Mouse that Roared: Disney and the End of Innocence* (Maryland: The Rowman and Littlefield Publishing Group, Inc., 2010), 112-13.
[31] Tiffin, *Marvelous Geometry*, 212.
[32] Langford, *Film Genres*, 7.
[33] Barry Keith Grant, *Film Genre: From Iconography to Ideology* (London: Wallflower Press, 2007), 1.
[34] Christine Gledhill, "Genre," in *The Cinema Book*, ed. Pam Cook (London: BFI Publishing, 1985), 60.
[35] Raphaëlle Moine, *Cinema Genre* (Oxford: Blackwell Publishing, 2008), 16. It is also interesting to note the more stable genre status that Moine affords to Japanese *anime*.
[36] David Bordwell, *Making Meaning: Inference and Rhetoric in the Interpretation of Cinema* (Cambridge, MA: Harvard University Press, 1989), 148.
[37] Paul Watson, "Critical Approaches to Hollywood Cinema: Authorship, Genre and Stars," in *An Introduction to Film Studies Third Edition*, ed. Jill Nelmes (London: Routledge, 2003), 157.
[38] Ibid., 154. Watson argues that animation does not fit comfortably into any of the categories originated by Alan Williams in his theoretical approach to genre. This is because Williams' three categories (*narrative*, *avant-garde* or experimental, and the *documentary*) were designed to enunciate only *photographic* modes. Alan Williams, "Is a Radical Genre Criticism Possible?," *Quarterly Review of Film Studies* 9, no. 2 (Spring 1984): 121-25.
[39] Martin Lister, Jon Dovey, Seth Giddings, Iain Grant and Kieran Kelly, *New Media: A Critical Introduction* (London: Routledge, 2003), 13.
[40] Henry Jenkins, "The Work of Theory in the Age of Digital Transformation," in *A Companion to Film Theory*, eds. Toby Miller and Robert Stam (Oxford: Blackwell Publishing, 2004), 236.
[41] S. Scott Graham and Brandon Whalen, "Mode, Medium, and Genre: A Case Study of Decisions in New-Media Design", *Journal of Business and Technical Communication*, Vol 22, No.1, January 2006, p.67.

[42] Andrew Darley, *Visual Digital Culture: Surface Play and Spectacle in New Media Genres* (London: Routledge, 2000), 134.
[43] Buscombe, "The Idea of Genre in the American Cinema," 13.
[44] Andrew Tudor, *Theories of Film* (New York: Viking Press, 1973), 131-50.
[45] Peter Hutchings, "Genre theory and criticism," in *Approaches to Popular Film*, eds. Joanne Hollows and Mark Jancovich (Manchester: Manchester of University Press, 1995), 67.
[46] Keith Grant, *Film Genre: From Iconography to Ideology*, 23.
[47] King, *New Hollywood Cinema*, 118.
[48] Patrick Power, "Animated Expression; Expressive Style in 3D Computer Graphic Narrative Animation," *animation: an interdisciplinary journal* 4 no. 2 (July 2009): 121.
[49] Mittel, "A Cultural Approach to Television Genre Theory," 41.
[50] Steve Neale, *Genre* (London: BFI Publishing, 1980), 19.
[51] Rick Altman, "A Semantic/Syntactic Approach to Film Genre," *Cinema Journal* 23, no. 3 (Spring 1984): 8.
[52] Altman, *Film/Genre*, 89.
[53] Ibid., 222.
[54] Alan Cholodenko, "Who Framed Roger Rabbit, or the Framing of Animation," in *The Illusion of Life: Essays on Animation*, ed. Alan Cholodenko (Power Publications in association with the Australian Film Commission, Sydney 2001), 213. See also Cholodenko, "The Animation of Cinema," *The Semiotic Review of Books* 18, no. 2 (2008), and, more recently, Donald Crafton, "The Veiled Genealogies of Animation and Cinema," *animation: an interdisciplinary journal* 6, no. 2 (2011): 93–110.
[55] Alla Gadassik, "Ghosts in the Machine: The Body in Digital Animation," in *Popular Ghosts: The Haunted Spaces of Everyday Culture*, eds. María del Pilar Blanco and Esther Peeren (London: Continuum International Publishing Group, 2010), 227.
[56] Martin Barker and Thomas Austin, *From Antz to Titanic: Reinventing Film Analysis* (London: Pluto Press, 2000); Paul Wells, *Animation and America* (Edinburgh: Edinburgh University Press, 2002), 157.
[57] Barker and Austin, *From Antz to Titanic*, 76.
[58] Michael Barrier, *Hollywood Cartoons: American Animation in Its Golden Age* (Oxford: Oxford University Press, 1999), 4.
[59] Paul Ward, "Computer games as Remediated Animation," in *ScreenPlay: Cinema/Videogames/Interfaces* eds. Geoff King and Tanya Krzywinska (London: Wallflower, 2002), 132.
[60] Jessica Aldred, "All Aboard *The Polar Express*: A 'Playful' Change of Address in the Computer-Generated Blockbuster," *animation: an interdisciplinary journal* 1, no. 2 (November 2006): 163. Videogames, like computer-animated films, have also been driven by a critical approach that seeks to trace their appropriate cultural genealogy and to ask, as Harry J. Brown puts it, "who are its parents–what does it owe to painting sculpture, architecture, photography, film, and animation?" Harry John Brown, *Videogames and Education* (London: M.E. Sharpe, 2008), 23.
[61] Stephen Prince has suggested that "computer-generated" remains a poor descriptor, as it implies "coldly manipulative, soulless, mechanical imaging processes." Stephen Prince, *Digital Visual Effects in Cinema: The Seduction of Reality* (New Jersey, Rutgers University Press, 2012), 9.
[62] Tzvetan Todorov, *Genres in Discourse* (New York: Cambridge University Press, 1990), 17.
[63] Jane Suzanne Carroll, *Landscape in Children's Literature* (New York: Routledge, 2011), 111.
[64] Janis P. Stout, *The Journey Narrative in American Literature: Patterns and Departures* (Connecticut: Greenwood Press, 1983).
[65] Ibid., 4.
[66] Dimitrios Eleftheriotis, *Cinematic Journeys: Film and Movement* (Edinburgh: Edinburgh University Press, 2010), 8-9.
[67] Seymour Chatman, *Story and Discourse: Narrative Structure in Fiction and Film* (New York: Cornell University Press, 1980), 44.
[68] Brian Winston, *Claiming the Real: The Documentary Film Revisited* (London: BFI Publishing, 1995), 104.
[69] Pamela Robertson, "Home and Away: Friends of Dorothy on the road in Oz," in *The Road Movie Book*, eds. Steven Cohan and Ina Rae Hark (London: Routledge, 1997), 271.
[70] Corey K. Creekmur, "On the Run and on the road: Fame and the outlaw couple in American cinema," in *The Road Movie Book*, 91.
[71] See Gaston Bachelard, *The Poetics of Space*, trans. Maria Jolas (Boston: Beacon Press, 1994), 38-73.
[72] Rick Altman, *A Theory of Narrative* (New York: Columbia University Press, 2008), 157.
[73] Joseph Campbell, *The Hero with a Thousand Faces: Third Edition* (California: New World Library, 1998).

[74] Marjorie Worthington, "The Motherless "Disney Princess": Marketing Mother out of the Picture," in *Mommy Angst: Motherhood in American Popular Culture*, eds. Ann C. Hall and Mardia J. Bishop (California: Greenwood Press, 2009), 30.
[75] Dennis Tyler, "Home Is Where the Heart Is: Pixar's *Up*," In *Diversity in Disney Films: Critical Essays on Race, Ethnicity, Gender, Sexuality and Disability*, ed. Johnson Cheu (North Carolina: McFarland & Company Inc., Publishers, 2013), 269.
[76] Judith Halberstam, *The Queer Art of Failure* (California: Duke University Press, 2011), 47.
[77] Giuliana Bruno, *Atlas of Emotion: Journeys in Art, Architecture and Film* (New York: Verso, 2002), 82.
[78] Charlotte Brunsdon, *London in Cinema: The Cinematic City since 1945* (London: BFI Publishing, 2007), 21.
[79] Sue Beeton, *Film-Induced Tourism* (Clevedon: Channel View Publications, 2005).
[80] Peter Mitchell, "Nemo-led recovery hope," *The Age* (June 4, 2003), accessed September 24, 2013, http://www.theage.com.au/articles/2003/06/03/1054406187273.html.
[81] Bruno, *Atlas of Emotion*, 82.
[82] Stephen Daniels and Denis Cosgrove, "Introduction: iconography and landscape," in *The Iconography of Landscape: Essays on the Symbolic Representation, Design*, eds. Denis Cosgrove and Stephen Daniels (Cambridge: Cambridge University Press, 1988), 1.
[83] Andrew Tudor, "From Paranoia to Postmodernism: The Horror Movie in Late Modern Society," in *Genre & Contemporary Hollywood*, 106-7.
[84] Thomas Schatz, "New Hollywood, New Millennium," in *Film Theory and Contemporary Hollywood Movies*, ed. Warren Buckland (New York: Taylor & Francis, 2009), 30.
[85] Jonathan Hardy defines "merchantainment" as a neologism of merchandising and entertainment, a term first used by Dave Lauren (son of fashion designer Ralph Lauren) at the Comdex computer trade show in November 2000. Jonathan Hardy, *Cross-Media Promotion* (New York: Peter Lang, 2010), 31.
[86] Robert Sickels, *American Film in the Digital Age* (Santa Barbara, California: Praeger, 2011), 95.
[87] Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2006), 104, 95.
[88] "Robust afterlife" is a term borrowed from David Bordwell, *The Way Hollywood Tells It: Story and Style in Modern Movies* (Los Angeles, Berkeley: University of California Press, 2006), 3.
[89] Carolyne Jess-Cooke, *Film Sequels: Theory and Practice from Hollywood to Bollywood* (Edinburgh: Edinburgh University Press, 2009), 8.
[90] Joe Strike, "Disney DTV Sequels: The End of the Line," *Animation World Magazine* (March 28, 2007), accessed September 25, 2013, http://www.awn.com/articles/disney-dtv-sequels-end-line.
[91] Pat Brereton, *Smart Cinema, DVD Add-Ons and New Audience Pleasures* (New York: Palgrave Macmillan, 2012), 156.
[92] For an examination of such terms and their relationship to texts that come between already existing works in a series, see Mark J.P. Wolf, *Building Imaginary Worlds: The Theory and History of Subcreation* (New York: Routledge, 2012), 207.
[93] King, *New Hollywood Cinema*, 144.
[94] Ibid.
[95] Robert Allen and Douglas Gomery, *Film History: Theory and Practice* (Berkshire: McGraw-Hill, 1985), 84-85.
[96] Salman Rushdie, *Haroun and the Sea of Stories* (London: Puffin Books, 2003), 86.
[97] Michael Iampolski, *The Memory of Tiresias: Intertextuality and Film* (Berkeley: University of California Press, 1998), 28.
[98] Gérard Genette, *Palimpsests: Literature in the Second Degree*, trans. Channa Newman and Claude Doubinsky (University of Nebraska Press, 1997), 491.
[99] Brian L. Ott, "'Oh My God, They Digitized Kenny!' Travels in the South Park Cyber-community V4.0.," in *Prime Time Animation: Television Animation and American Culture*, eds. Carole A. Stabile and Mark Harrison (New York: Routledge, 2003), 227.
[100] Ibid.
[101] Jenna Ng, "Love in the Time of Transcultural Fusion: Cinephilia, Homage and *Kill Bill*," in *Cinephilia: Movies, Love and Memory*, eds. Marijke de Valck and Malte Hegner (Amsterdam: Amsterdam University Press, 2005), 68.
[102] Christopher Todd Anderson, "Post-Apocalyptic Nostalgia: Wall-E, Garbage, and American Ambivalence toward Manufactured Goods," *Lit: Literature Interpretation Theory* 23, no. 3 (2012): 272.
[103] Laura Mulvey, *Death 24x a Second: Stillness and the Moving Image* (London: Reaktion Books Ltd., 2006), 161.
[104] Ibid.

[105] Robert Alan Brookey and Robert Westerfelhaus argue that an 'Easter Egg' refers to "a special feature that is hidden in the interface of the DVD." However, such 'Eggs' have since evolved into the supplementary content 'hidden' within the feature-film itself. Robert Alan Brookey and Robert Westerfelhaus, "The Digital Auteur - Branding Identity on the Monsters, Inc. DVD," *Western Journal of Communication* 69, no. 2 (April 2005): 109-128.
[106] Weaver, *Comics for Film, Games, and Animation*, 194.
[107] Umberto Eco, "Casablanca: Cult Movies and Intertextual Collage," *SubStance* 14, no. 2 (1985): 11.
[108] M. Keith Booker, *Disney, Pixar, and the Hidden Messages of Children's Films* (California: Greenwood Publishing Group, 2009), 92.
[109] Ibid.
[110] John Fiske, *Television Culture* (London: Methuen, 1987), 108.
[111] See David A. Price, *The Pixar Touch: The Making of a Company* (New York: Vintage, 2009).
[112] Jonathan Gray, *Watching with The Simpsons: Television, Parody, and Intertextuality* (New York: Routledge, 2006), 66.
[113] Michael Dunne, *Intertextual Encounters in American Fiction, Film, and Popular Culture* (Ohio: Bowling Green State University Popular Press, 2001), 147.
[114] Jens Fredslund, ""No Story Comes from Nowhere," or, the Dentist from *Finding Nemo*: Ambivalent Originality in Four Contemporary Works," *Nordic Journal of English Studies* 8, no. 2 (2009): 15.
[115] Ibid.
[116] Price, *The Pixar Touch*, 182.
[117] Such "mockbusters" are described by M. Keith Booker as "low-budget films that are unapologetic rip-offs of recent big-budget films." M. Keith Booker, *Historical Dictionary of American Cinema* (Maryland: Scarecrow Press, 2011), 49. Examples of this practice include the computer-animated features made by Brazilian company Vídeo Brinquedo. *Ratatoing*, *Tiny Robots* and *Kiara the Brave* are mockbusters of Pixar's *Ratatouille*, *Wall-E* and *Brave* respectively, while *Little Bee* and *The Little Panda Fighter* bear close resemblance to DreamWorks' *Bee Movie* and *Kung Fu Panda*.
[118] Susan Sontag, "The Decay of Cinema," *New York Times Magazine* (February 25, 1996), accessed September 25, 2013, http://partners.nytimes.com/books/00/03/12/specials/sontag-cinema.html.
[119] Paul Willemen, *Looks and Frictions: Essays in Cultural Studies and Film Theory* (Indianapolis: Indiana University Press, 1994), 227.
[120] Marijke de Valck and Malte Hegner, "Down with Cinephilia? Long Live Cinephilia! And Other Videosyncratic Pleasures," in *Cinephilia: Movies, Love and Memory*, 15.
[121] Ng, "Love in the Time of Transcultural Fusion," 69.
[122] Leslie Felperin, "Shark Tale" review, *Empire* (November 2004): 36; Barker and Austin, *From Antz to Titanic*, 78.
[123] Graham Allen, *Intertextuality: The New Critical Idiom* (London: Routledge, 2000), 6.
[124] Barker and Austin, *From Antz to Titanic*, 78.
[125] Thomas M. Leitch, "Twice-Told Tales: The Rhetoric of the Remake (1990)," in *Dead Ringers: The Remake in Theory and Practice*, eds. Jennifer Forrest and Leonard R. Koos (Albany: New York University Press, 2002), 47. Noël Carroll, "The Future of Allusion: Hollywood in the Seventies (And Beyond)," *October* 20 (Spring 1982): 51-81.
[126] Terrance R. Lindvall and J. Matthew Melton, "Towards a post-modern animated discourse," in *A Reader in Animation Studies*, ed. Jayne Pilling (Sydney: John Libbey, 1997), 204.
[127] Marikje de Valck, *Film Festivals: From European Geopolitics to Global Cinephilia* (Amsterdam: Amsterdam University Press, 2007), 36.
[128] Ng, "Love in the Time of Transcultural Fusion," 65.
[129] Thomas Elsaesser, "Cinephilia or the Uses of Disenchantment," in *Cinephilia: Movies, Love and Memory*, 36.
[130] Chuck Tryon, *Reinventing Cinema: Movies in the Age of Media Convergence* (New Jersey: Rutgers University Press, 2009), 21.
[131] Ibid., 17.
[132] Drehli Robnik, "Mass Memories of Movies: Cinephilia as Norm and Narrative in Blockbuster Culture," in *Cinephilia: Movies, Love and Memory*, 59.
[133] Ibid., 57.
[134] Mary Ann Doane, *The Emergence of Cinematic Time: Modernity, Contingency, the Archive* (Cambridge, MA: Harvard University Press, 2002), 226.
[135] Robnik, "Mass Memories of Movies," 59.
[136] Barbara Klinger, "The DVD Cinephile," in *Film and Television after DVD*, eds. Tom Brown and James Bennett (London: Routledge, 2008), 19-20.
[137] Robnik, "Mass Memories of Movies," 59.

[138] Werner Wolf, "Defamiliarized Initial Framings in Fiction," in Werner Wolf and Walter Bernhart, eds. *Framing Borders in Literature and in Other Media* (Amsterdam: Editions Rodopi, 2006), 188.
[139] Elsaesser, "Cinephilia or the Uses of Disenchantment," 40.
[140] Ibid., 41.
[141] Walter C. Metz, "A Womb with a Phew! Post-Humanist Theory and Pixar's *Wall-E*," in *Diversity in Disney Films*, 265.
[142] Willemen, *Looks and Frictions*, 235
[143] Robert Stam, *Reflexivity in Film and Literature from Don Quixote to Jean-Luc Godard* (New York: Columbia University Press, 192), 21.

Chapter Two: Stepping into a Luxo world

Computer-animated film and fictional world creation

> Worlds are comprehensive systems which comprise all elements that fit together within the same horizon, including elements that are before our eyes in the foreground of experience, and those which sit vaguely on the horizon forming a background. These elements consist of objects, feelings, associations, and ideas in a grand mix so rich that only the term 'world' seems large enough to encompass it.[1]
> ----- Dudley Andrew, *Concepts in Film Theory*

> Now, Mr. Rembrandt, if you'll kindly oblige with a little appropriate scenery.
> ----- Daffy Duck, *Duck Amuck* (1953)

Computer-animated film worlds can be identified by many of the relationships to world-building by which all animated worlds have been categorised. Such relationships overwhelmingly coalesce around issues of realism (or lack thereof), whilst also touching upon their constructedness as ontologically finite, occluded screen spaces. Paul Wells has summarised the world-making capabilities of animation, arguing that animators are responsible for "every aspect of what is a highly detailed process of *creating* a world rather than merely *inhabiting* one."[2] Whether painted cel-animation, three-dimensional stop-motion or entirely virtual spaces, the creative choices and stylistic motivations inherent to animated world-making position the medium at the heart of fictional thinking. In a recent essay detailing cinema's capability for creating visually arresting screen worlds, V.F. Perkins suggests that it should be a necessary recourse for all fictional analysis to "illuminate artifice, not deny it."[3] He adds the caveat that worldhood is, therefore, 'not primarily an issue of realism.' But the emphasis placed upon animation as a product (and project) of heightened illusionism has wrapped fictionality around animation's status as, to use Perkins' words, "flagrantly non-realistic media." The description of animated worlds by Alexander Sesonske back in the 1970s, including his claim that cartoon worlds are not "*the* world," plays out the preoccupation

with a fictionality that is rooted in a foundational reality.[4] These kinds of claims have underscored too heavily the boundary between reality and illusion. Furthermore, each of those elements that have been cited to incriminate animation, whether concerns of its fictional construction, its borders and boundaries and its incompleteness, are a matter of course for all of cinema's fictions. The charges of fictionality brought against animated worlds by scholars such as Sesonske can ultimately be levelled at live-action filmmaking, and find a corollary with certain aspects within broader fictional world theory. Incompleteness, for example, is a necessary feature of all fictional worlds that separates them from the philosophical field of possible worlds.[5] Sesonske's claim that there is no access to an animated world "except through vision" is both a requirement, and a feature, of all film fictions.[6] As theorists such as Stanley Cavell and Deborah Thomas have argued, the film screen is a border which prohibits entry and forestalls any intrusion by the spectator into a fictional world.[7] Animation's fundamental artifice finds a parallel in a live-action cinema that is highly-constructed and sculpted. Perkins also identifies an often-overlooked "compromise position" occupied by the photographic narrative film, in which a "fictional 'reality' is created in order to be recorded."[8] Animation is undoubtedly a special case when situated alongside any one of these areas. But the default manner in which the medium has been critically evaluated does little to lay the groundwork for the identity or scope of computer-animated films, or indeed spotlight the complexity of the genre's fictional worlds.

The position of computer-animated films within this sliding scale of fictionality does, however, offer the potential to unsettle many of the charges brought against animated worlds. Highly evocative and elusive, despite being rigidly rule-bound and fictionally incomplete, computer-animated worlds present scholarship with a unique theoretical challenge. Indeed, as Thomas Lamarre points out, "digital media promised to produce amazing new worlds, things never before seen."[9] The identification of the

digital as renewing cinema's fictional worlds, and their regeneration and rejuvenation at the hands of technological developments, are demands that can only be satisfied by a fresh approach to world creation in the computer-animated film. While they convey much continuity with other animated worlds, they also demonstrate multiple points of rupture. To distinguish several of the transformations and salient points of contact that the genre makes with cinema's other types of fictional worlds, this chapter introduces 'Luxo' as a descriptor that brings into greater focus the unexplored area of computer-animated film worlds. Luxo is a term that is historically bound to the development of the genre, and in particular works to connote the precise nature of its screen worlds.

Between its first screen appearance in Pixar's computer-animated short *Luxo Jr.*, and its subsequent adoption by the studio as its corporate logo, the 'Luxo' lamp featured in four educational shorts *Light and Heavy* (1991), *Surprise* (1991), *Front and Back* (1991), and *Up and Down* (1991), created for the long-running U.S. children's television programme *Sesame Street* (1969-). Each of the thirty-second vignettes framed the curious lamp character within narratives of worldly exploration. Learning concepts such as the behaviour of objects under duress, depth and dimension, and gravity were all narrativised through the playful actions of the sentient spotlight. Luxo was a character used to induct spectators into the circumstances of these new computer-animated worlds, facilitating their entry into such spaces as they became coached in what to expect of its fictional worldhood. The character moved within a "hyper-realist" set of conditions, and this approach quickly became standardised as the dominant principle governing a Luxo world.[10] It continues to regulate the events and action(s) across feature-length computer-animated films, underscoring its basic foundations. Without the verisimilitude of a hyper-realist style, Buzz Lightyear really would be able to fly (rather than simply 'fall with style') in *Toy Story*, and Carl Fredericksen would have little need for helium balloons to raise his house from his foundations in *Up*. The cantankerous

pensioner could, instead, simply call upon animation's effortless ability to bring into disrepute gravitational laws (thus rejecting hyper-realism), as epitomised by the hapless Wile E. Coyote who was so often suspended in a state of comic inertia in Warner Brothers' Looney Tunes cartoons.

The value of 'Luxo' for computer-animated films is no less significant today, almost thirty years after the lamp's first screen appearance. The impact of digital technologies upon contemporary filmmaking practice has given rise to a range of fictional film worlds to which the label *computer-animated* might be legitimately applied. In *Waking Life* (2001) and *A Scanner Darkly* (2006), for example, animation overlays pre-existing live-action footage via the process of interpolated Rotoscoping, applied using the digital tool Rotoshop. These hybrid films thus re-conjure a particular kind of computer-animated world (albeit replicating a hand-drawn style) by superimposing a computer-animated fiction on top of a pre-existing, live-action one.[11] Contemporary filmmaking also mixes highly persuasive digital imagery with sophisticated matte paintings, detailed miniatures and models in the construction of putatively live-action worlds. Mainstream films like *Sky Captain and the World of Tomorrow* (2004), *Sin City* (2005), *300* (2006), *Speed Racer* (2008), *The Spirit* (2008), *Alice in Wonderland* (2010) and *Hugo* (2012), as well as the recent *Star Wars* (1999-2005) and *Lord of the Rings* (2001-3) franchises, show how the increased practicality of all-digital environments has expanded the range of computer-animated worlds. Their mechanics of production present a digital update to the back-projection processes of the Classical studio-era.[12] Actors are required to (inter)act in front of vast green and blue screens (known as a virtual backlot), or in minimal sets with animatronics, props and prosthetics, while computer graphics, in the words of Jay Boulter, seamlessly 'fill the world.'[13] With *computer-animated* worlds now defined by their striking multiplicity, the term *Luxo* will be used to connote those fictional worlds specific to the computer-

animated film. It does not account for digitally-traced Rotoscoped worlds, or three-dimensional virtual scenery achieved via digital projection common to live-action/computer-generated composites. Luxo worlds are of an alternate mode of production and different visual order. They are simulated virtual environments not captured in the real-world, but rather modelled, shaped, sculpted and recorded from within a computer. As Burr Snider wrote back in December 1995, "*Toy Story* was shot entirely on location – in cyberspace."[14] Put simply, a Luxo world can be thought of as a computer-animated fiction achieved through a fluid act of production, and not as a fictional world crafted separately in *post*-production.

Just as 'generic verisimilitude' codifies generic expectations into an implied set of laws and pre-structured agreements, Luxo is intended to function as a shorthand that makes discriminations about the rules that govern and guide how spectators are to grasp fictional meaning. This chapter argues that a Luxo world can *only* be a computer-animated world. It is a fictional space which both *preserves* and is the *preservation of* the genre. Charged with disclosing the many particularities of these digitally-animated worlds, we might therefore unfold Luxo as a synonym for, or a term closely allied with, the specific *animatedness* of the computer-animated film.[15] Animatedness is a catchall term verifying the genre's many qualities and specificities as the dominant mode of contemporary animated fiction. It has certainly been a prerequisite of animation scholarship to unfold along the lines of animated difference. The accelerating academic interest in animation as an inherently spatial art, and the recent spate of critical writing which has matured around the subject of animated worlds, has affiliated the virtues of animated filmmaking with its particular world-making capabilities.[16] Suzanne Buchan, for example, has defined animated worlds as those "realms of cinematic experience that are accessible to the spectator only though the techniques available in animation filmmaking."[17] The textual implications of what Buchan has labelled animation's

"special powers" has been maintained across many formal appreciations of animation's range of performance spaces. Animated worlds are certainly gifted, accomplished enough to progress, transition, adjust, reform, flatten and become spatially discontinuous at will. Computer-animated films are no less prone than other types of animation to creatively accent their achievements when presenting their worlds. Describing a short sequence from *Monsters, Inc.*, Aylish Wood has spoken of a sudden "leakage" of computer-animation onto the screen interface which pushes the technology beyond merely reproducing "a series of pre-existing conventions."[18] This "leakage" occurs when the digital becomes notably inscribed into the text, making spectators witness to an event that surfaces both the artistic expertise of the film-makers, and the innovative presence of "elements that could only be effectively achieved through digital animation."[19] A Luxo world must be critically evaluated as a representational and fictional space revealed to the spectator, and the world of its origins on a computer screen. The two strands are interrelated and inseparable, part of an essential cause and effect relationship between the unseen process of activating or giving life, and the new kind of arresting screen activity witnessed by the spectator. The animatedness of Luxo worlds thus arises as a shorthand not just for the strengthening of animated artifice (rather than its rejection), but also attests to a certain visibility or "leakage" of labour.

Revelations of animated work represent a highly apposite intervention into the appreciation of computer-animated screen spaces. Vivian Sobchack has argued that the themes of automatic precision, regulation and oppression in *Wall-E*—despite the film's "formal achievements and narrative complexity"—efface the effortful qualities of its digital production.[20] For Jennifer M. Barker, digital technologies omit the effortful authenticity and labour of cel-animation, with a frictionless fluidity that excludes the discontinuous, "jerky, slightly imperfect illusion" of frame-by-frame cel-layering.[21] Beyond the frailty and fallibility of hand-drawn techniques, computer-animated films

such as *Wall-E* equally elide the "laborious struggles" and stuttering, sporadic movements characteristic of stop-motion. For phenomenologists such as Sobchack and Barker, these qualities of non-digital animation enable it to play across the poles of animate and inanimate, and act as a reminder of "how difficult it is to be animate, to be alive, to struggle against entropy and inertia."[22] Other scholars have expressed a more straightforward nostalgia for the visible truth of animated construction. Kristin Thompson admits in her review of *Flushed Away* that "I kind of miss the thumbprints you could sometimes spot in the clay of previous Aardman films."[23] This chapter sets out to identify how spectators remain privileged observers to a digital thumbprint: that is, the collective trace or impression of its animatedness left behind by the animators. It is the formal dynamism, virtuosity and staggering complexity of these new worlds that manifests the residual labour of their collaborative and sophisticated digital production. The digital thumbprint within a Luxo world is less a clumsy or revealing remnant of its fictionality, but the visible mark of its arresting worldhood. By addressing various aspects of their worldliness, including their growth and cultivation inside a computer program and the unique kinds of digital characters who populate such screen spaces, this chapter argues that computer-animated films are those which visibly *labour* whilst not *labouring*. These worlds do not settle, but are charged with an enlivening, 'animate' quality that invites spectators to keep up with the action. It is here, then, spread widely across the geography of its fictional Luxo world, that computer-animated films most forcefully harness elements of their particular animated identity. As the insect Colonel Cutter puts it when surveying the achievements of the underground colony in *Antz*, "Look at what these workers have done."

All fictional worlds within the cinema are founded upon interstitial qualities, pulled between elements of reality and their own fictional constituents. Perkins writes that a fictional film world, though "not ours," may share our own real-life histories, as

well as "our economy, our technologies, our architecture, and the legal systems and social forms."[24] Relevance and recognisability for a computer-animated film similarly exists on a spectrum of fictionality. Luxo worlds operate as variant gradations on a sliding scale, rather than according to a simple binary opposition between the real and the unreal. Multiple levels of recognition are built into a Luxo world, whether invoking an unspecified, 'anywhere' suburban milieu, or relying upon more familiar iconography that establishes a real-life location with great economy, and with little scope for contradiction. But the genre also mixes its stylistic register and introduces entirely fictional environments. These include, but are not limited to, the kingdoms of Duloc in *Shrek* and DunBroch in *Brave*, and cities like Monstropolis (*Monsters, Inc.*), Retroville (*Jimmy Neutron: Boy Genius* (2001)), Thneedville (*The Lorax*), Metroville (*The Incredibles*) and Metro City (*Megamind* and *Astro Boy*, though not the same fictional Luxo world). Fictional Luxo worlds can often invade and upset realist topography. Swallow Falls in *Cloudy with a Chance of Meatballs* might be an entirely fictional narrative world, but protagonist Flint Lockwood informs us that this place "familiar for its sardines" lies hidden just underneath the 'A' in Atlantic on a printed atlas. Spectators are also notified that the fictional town of Radiator Springs in *Cars* is situated between Gallup, New Mexico and the Sonoran Desert in California, a community found (albeit fictionally) within the recesses of our familiar geography. *Arthur Christmas* opens in the fictional Mimosa Avenue that resides in our Trelew, Cornwall, while *The Adventures of Tintin: Secret of the Unicorn* introduces a fictitious Moroccan fishing port and semi-independent state by the name of Bagghar. These fictionally real locations situate a Luxo world as simultaneously *in* and *beyond* our real-life world. Tintin's Morocco is recognisable as *our* Morocco. It is formally marked by Arabic and Berber dialects, flowing *djellaba* clothing, bustling *souk* markets and street vendors, and the ornamental cornices and crenellated arches of Moorish *riad* architecture. But despite its audiovisual

proximity to the real-world, Bagghar belongs entirely to, and is an invention of, the formal achievements of the fiction.

The *animatedness* of a Luxo world permits it to stake a very different territory than other fictional worlds, providing another separating principle between those states of reality and illusion. An anecdote regarding the production of the aquatic adventure *Finding Nemo* brings to light a certain negotiation of fictionality and animatedness. Initial tests to digitally simulate the film's ocean environment resulted in images which, according to Supervising Technical Director Oren Jacob, looked like a "chlorinated swimming pool or a very foggy day on a heath somewhere in Scotland."[25] *Finding Nemo* director Andrew Stanton challenged the animators to visually replicate the live-action material that Pixar had recorded during their extensive underwater research. Once this new computer-animated footage was completed and placed next to the original recording of marine images, Stanton "couldn't tell which one was which." He explains that "We had to sort of hold back and go wait a minute, it looks too real. We want you to believe that it exists, but we want you to also kind of feel that you're in a make-believe world."[26] So, just as photographic cinema (as in animation) inhabits the "compromise position" between fictional construction and realism, a Luxo world adopts another kind of "compromise aesthetic" that settles depictions of reality with its own perceptible animatedness. Many scholars have set out to map this new kind of computer-animated *visuality* to better understand the qualities of its worlds.[27] The term "third realism" has been originated by Mark Cotta Vaz to describe the conjunction of dimensional photorealism with the flourishes and freedoms of illustration.[28] But it is not uncommon for scholars to lean on more familiar vocabularies to describe the particular visual skewing of real-world conditions. In his recent book on the historical transformation(s) of animated space, J.P. Telotte places the design policies of Pixar within a chronology of animated worlds, which always seem "to point in the direction

of both a real space and a fantastic space."[29] It comes as little surprise that a vocabulary drawn from the fantasy genre has appeared so widely in discussions of computer-animated film worlds. It can be attributed to the recent resurgence of academic interest in the workings of fantasy itself, one which correlates with the upturn in the number of "pure fantasy films" in the immediate post-9/11 period.[30] Animation has also regularly been considered a 'fantastic' visual medium. Donald Crafton is not alone in arguing the "settings, landscapes and stages" that cartoon stars occupy are "fictional worlds that we like to believe in, all the while knowing them to be fantastic."[31] Fantasy here is implicated in animation's ontological disassociation from photographic cinema, thus returning discussions regarding the fictionality of animation back towards its non-indexical qualities.

The 'in-between' state of a Luxo world is manifest not just in the aesthetic style in which it is presented, but bleeds into the kinds of events, actions and events which might be permitted to occur within these spaces. Katherine Sarafian, a current Pixar employee and the producer of *Brave*, reveals the myriad of possible terms for these new kinds of computer-animated worlds, informing us that:

> Pixar's digital universe is not a hyperreal world, nor is it a surreal world, nor a real world that mimics life. It is an *other*world, neither more nor less real than the actual, physical world outside. It is wholly different at the same time that it is familiar.[32]

Despite Sarafian's suggestion that Pixar are involved in the creation of otherworlds, their fictional worlds (like the majority of those across the genre) cannot be considered 'Other' in the manner that James Walters has recently theorised.[33] In fact, Luxo worlds do not pose themselves as alternate, imagined or other, unlike the arrangement of fictional worlds in Hayao Miyazaki's *Princess Mononoke* (1997) and *Spirited Away* (2002), *Coraline* (2009) and *The Secret of Kells* (2009). A Luxo world is far from supernatural, less likely to be marked by a series of magical and mystical events. Their journey narratives are more physically *flushed* away than enchantingly *spirited* away.

Anchored to some degree to the real-world, a more suitable corollary can be found for a Luxo world. *Monsters, Inc.* and *Up* director Pete Docter describes how "one of the things we've always tried to do at Pixar is to look at our world, the world we're familiar with, in an unfamiliar way."[34] This statement aligns the strange visual reality and viewing pleasures of the computer-animated film with an associated or overlapping category of fantasy, known as Low Fantasy (sometimes called "magical realism.") This is a literary style of fantasy fiction which spotlights the irrational or fantastical elements of a real-world setting, and is perhaps best exemplified by novels such as Rumer Godden's *The Doll's House* (1947), Mary Norton's *The Borrowers* (1952) and *The Indian in the Cupboard* (1980) by Lynne Reid Banks. Magical realism is a mode of fantasy with very few cinematic examples, and despite efforts by Frederic Jameson in the 1980s to conjoin it with cinema it remains primarily the reserve of particular kinds of literature.[35] It has, however, been deployed in a similar fashion to describe the ontology of animation: that is, as a loose way of describing all animation as a type of cinema that can "create their own worlds."[36] However, computer-animated Luxo worlds display strong magically realist properties. Jameson defines magical realism as "the poetic transfiguration of the object world – not so much a fantastic narrative, then, as a metamorphosis in perception and in things perceived."[37] As Judith Saltman has further identified, throughout the twentieth-century, such Low Fantasy in literature developed within the thematic context of "personified toys and inanimate objects."[38]

The *Toy Story* films naturally provide a clue to how a Luxo world normalises elements considered *para*normal or *super*natural in other genres. The occurrence of talking toys is placed in the same stream of thought as several real-world concerns: a fantastic scenario involving the impossibility of conscious playthings subjected to realistic treatment. It is never explained how any of the sentient toys are able to converse with one other. Toy speech and sentience is merely a standard condition

imposed on the logic of *this* fictional realm, one that is familiar and recognisable to spectators as modern day, suburban America. The toys' proclivity for language is certainly not the result of sudden magical intervention, granted by a wandering Tinkerbell from Disney's *Peter Pan* (1953) or any mythical Genie, as in *Aladdin*, who enters into the fictional world to "make some magic." In fact, *Toy Story 2* replaces the magical pixie dust embedded within the Disney logo with a less-enchanting layer of grime that reminds toys of their forgotten, shelved status. Computer-animated films are certainly not built to the same blueprint of fantasy and magic that has held such strong ideological currency across the Walt Disney Corporation's various business and multimedia enterprises, and especially packaged in their feature-length animated output. For example, computer-animated films have in the main jettisoned animation's enduring associations with the musical format, a style that rose to prominence and popularity with the Broadway-influenced aesthetic of Disney's post-1989 Second Golden Age. Not only has the Hollywood musical been credited with an "imaginative excess," but Michael Dunne has argued that the synergistic "fantasy musical" so common to Disney is the "ultimate cinematic insult to partisans of the 'real world'."[39] Computer-animated films also display less of a cultural attachment to fairytale storytelling, a distinct literary style closed allied with that of fantasy and a core feature of Disney's Magic Kingdom. Computer-animated worlds are not as magical because other expectations and conditions regarding their worldhood are in play. While Pinocchio's aspirations to be a 'real boy' are fulfilled by wishing 'upon a star,' there is little evidence that Buzz Lightyear's pursuit of humanity in *Toy Story* will be granted by similarly magic acts. Such hope remains *flawed* (and, as the Space Ranger lies grounded and motionless after attempting 'real' flight, *floored*). Buzz is destined to remain, as Woody the Cowboy gleefully remarks, merely a "child's plaything."

Computer-animated Luxo worlds are an emerging cinematic mode of magical realism. These films even exist *outside* any broad definition of science-fiction: a mode of speculative fiction that, unlike magical realism, "does not have a realistic setting that is recognizable in relation to any past or present reality."[40] While the *Toy Story* films literally *toy* with the notion of what is real, a Luxo world does deviate from magical realism in one significant way. Arnold Berleant points out that magical realism conventionally evaporates "the significance of the distinction between the real and the unreal," thus providing a continuous slippage between the magic of fantasy and reality.[41] However, computer-animated films actually preserve such a distinction within its worlds, not permitting its animatedness to slip continuously into real-world so that its specificities might become lost. Their narratives operate at the border, by retaining animatedness and playing with their degrees of difference from live-action film. Computer-animated films do not want spectators to mistake them for live-action worlds, however. Making use of a stylised, caricatured aesthetic, despite the visual representations afforded by technological advancement, are just some of the techniques these films use to creatively, imaginatively and playfully remind spectators of their animatedness. The design policies in operation in a Luxo world bring the genre up to the edge of live-action reality, only to recoil from the opportunity for realistic representation.

Luxo thus emerges as a particularly valuable descriptor for computer-animated films for three reasons. First, broad terms like hyper-realism and third realism have tended to prioritise the real by suggesting that the new, interstitial aesthetic of computer-animated films is a modification to realism by animation (a heightened or exaggerated version of reality). Luxo, by comparison, authenticates the genre's formal achievements as a creative product *of* animated technique (animatedness). Second, Luxo conceptualises animatedness by avoiding reference to loaded terms such as fantasy,

dreamlike, enchanted, surreal, paranormal, science-fiction, magical and supernatural. Not only have such concepts remained subject to ongoing theoretical revision, they are not satisfactory as explanations for the kinds of worlds produced in the genre. Third, Luxo constitutes an umbrella term under which the hybrid visual style of computer-animated films coexists with the kinds of events, activities and relationships that are bound together through a certain visibility of the processes by which they made. Crafton has suggested that "live-action environments are selected, constructed, and manipulated as much as cartoon environments, but the techniques for doing so are disguised, creating a natural believability, a cinematic trompe l'oeil that passes for reality."[42] But the invasion of realistic representation by animation highlights the stress placed upon the retention of animatedness. Computer-animated worlds make few attempts to 'pass for reality,' rather they deliver spaces that are visibly *powered*, and not *paralysed*, by the animated labour involved in their production.

The digital certainly lies at the centre of animatedness, and the Luxo world's virtual production defines many of its achievements. Luxo worlds exist inside a computer independently of the film that takes place there, and independently of the spectators' act of watching. These spaces are persistent worlds: mapped, built and surviving three-dimensionally. Individual sets, equivalent to those in stop-motion, are physically modelled to scale using a host of pliable materials, before being remodelled and rendered inside a computer. Even those motion-capture films, including *The Polar Express*, *Beowulf* and *The Adventures of Tintin: The Secret of the Unicorn*, have their fictional worlds crafted inside a computer, into which the captured performances are instantly inserted. The performers climb wire-frame sets and handle rough props that correlate to digital equivalents stored inside a computer. No green/bluescreen processes are involved (and thus no virtual environment enveloping the actors). When these performances are viewed 'live' on a computer monitor, the pre-existing three-

dimensional world is instantly composited into the film frame, giving the illusion that each actor is performing directly within the virtual Luxo world.

The creation of Luxo worlds in this manner holds a strong practical value. Frederick Betz argues that stored digitally, computer-animated worlds are simply "easy to alter."[43] Or, as Stuart Mealing puts it, "one advantage of computer generated sets, as opposed to hand-built models, is that they can be destroyed as often as you like and then restored at the touch of a button."[44] Luxo worlds are equally more forgiving when it comes to the practicalities of computer-animated filmmaking. Computer-animated films are, as with much animated and non-animated cinema, highly collaborative efforts. As the opening titles of *Cloudy with a Chance of Meatballs* playfully announces, this is "A Film by A Lot of People." The virtual geography of a Luxo world enables the multiple production staff including animators, visual development artists, production designers, directors of photography, set supervisors, set dressers and art directors to work simultaneously and seamlessly within the space of the same location. Available from any computer terminal, a Luxo world is therefore accessible in ways that stop-motion animated worlds are not. For films such as *Chicken Run*, *Wallace & Gromit: Curse of the Were-Rabbit* and *Frankenweenie* (2012), multiple versions of the primary sets (and indeed the characters) were built to accommodate and accelerate the rate of production.

The mathematical codes known as "fractals," which underlie the creation of Luxo worlds, are equally significant for determining how the animatedness of computer-animated films marks these unique screen spaces. Coined by mathematician Benoît Mandelbrot in 1975, the dominant features of fractals is their self-similarity, scaling invariance and strict rules of repetition, insofar as they repeat at various levels of magnification.[45] As an individual tree branch grows and then divides, it produces a miniature 'version' whose microcosmic form and shape emulates that of a fully-grown tree. Similar relationships exist in the branching of rivers and of smaller streams, and

between enormous mountain ranges and more diminutive rock formations. Computer-animator Loren Carpenter adapted fractal patterning when making the first computer-animated shorts during the 1980s. Carpenter's two-minute film *Vol Libre* (1980) was the first to employ disparate fractal generating algorithms to replicate the fractal geometry found in nature, thus enabling the computer program to simulate apparently random patterns found across the natural world. With a visual effect similar to that of time-lapse footage, virtual mountain ranges and rock formations suddenly emerge from simple polygon shapes during the course of the film's duration (Fig. 2.1). The grow-divide structural order central to fractal geology has remained the fundamental building blocks of feature-length computer-animated films, used as an underlying mathematical code that generates the most intricate of virtual landscapes. Although the ridges and plateaus of the fictional Paradise Falls in *Up* were sculpted to resemble the vast Tepui mountains of Venezuela, the self-regulation patterning of fractals enabled an accurate replication of jagged rocks and dense surrounding jungle. Similar growth algorithms were used to cultivate the lush foliage central to the narrative of *Over the Hedge*, while in *Flushed Away* fractal geometry created even smaller details, like the foam lather floating almost imperceptibly on top of the film's underground river system.[46] The strong fractal dimension of Luxo worlds more accurately matches the mathematical code (at an atomic level), which governs the geological shapes, curves and contours of the real world. So while both hyper-realism and fractals come to define animation's formal relationship to realism, the latter is related to the specificity of computer-animated film worlds that are virtually grown within a computer program. Fractals suggest the unique algorithmic code-base (rather than the cel-base or clay-base of other animated forms). But by understanding a Luxo world as a *fractal fiction*, the digital identity or animatedness of the computer-animated film can be cast on the side of fictional world creation, rather than just entangled with discourses of realism.

There are two principle ways in which computer-animated films may choose to invite the spectator to marvel at the accuracy, detail and visual complexity of their fictional worlds. Stephen Prince has identified the ways in which a computer-animated environment can effortlessly "nudge out the physics of actual light behaviour."[47] The food in *Ratatouille,* as Prince explains, was primed and shaded using subsurface scattering systems of light and additional "bounce lights" to create a warm, glowing candescence that cheated physical lighting systems used in live-action film. The objective was to enhance the sophisticated texture and fine detailing of its array of 'edible' objects, correlating the enhanced visibility with a heightened level of appeal. Light is an attribute of *Ratatouille*'s animatedness: an animated addition that makes Luxo even more of an appropriate term for describing the genre's fictional worlds. Cast from the light of Luxo, these new animated worlds are particularly enlightened and illuminated, their desirability continually spotlighted with each and every frame.

However, a Luxo world is equally illuminated through the specific capabilities of the virtual camera that spotlight the accuracy and expanse of fractal growth. The fractal graphics of *Vol Libre* "tricked the eye in numerous ways, seemingly depicting a fully detailed world that scaled, titled and panned accurately."[48] It was, of course, not the world that tilted or panned, but the multi-directional camera placed within the fiction itself. Despite developments during the 1930s in the multi-plane camera, in cel-animation the camera typically maintains its place in one position. It is the individual film cels (comprising the fictional world) that are incrementally moved frame-by-frame. In the creation of a Luxo computer-animated world, the inverse relationship between camera apparatus and world is true. Computer-animated worlds remain spatially fixed. It is the mobile, vicarious camera that moves through the space, particular viewpoints chosen and pre-determined within the fictional world to the denial of others. Spectacular shots such as those accompanying Bob Parr's (Mr. Incredible) arrival on Nomanisan, an

uncharted volcanic island in *The Incredibles*, as well as the entire opening sequence through the dust clouds in *Wall-E*, formally reprise the vicarious camerawork so impressive in Carpenter's *Vol Libre*. The elaborate flamboyance of the long take is also a particularly common feature of the (presentation of the) Luxo worlds found in motion-capture films. This is a formal feature that can be attributed to the camera's lack of spatial constraints as it builds a world separate from the motion-captured performances. Computer-animated films raise intriguing questions about the function of editing within the digitally-assisted long take. The potential flexibility of unbroken screen time is compelling within a medium that historically takes editing as a relatively 'invisible' process that effaces its frame-by-frame or stop-motion construction. Nonetheless, certain sequences are designed to draw attention to the camera's unrestrained and unrestricted animated capabilities, including the virtuosic excess of the "Ticket on the Loose" sequence from *The Polar Express*, which follows the serendipitous and fortuitous behaviour of a golden ticket fluttering in the wind; the opening shot of *A Christmas Carol*, which swoops through a digital Dickensian London; and the Moroccan chase scene in *The Adventures of Tintin: The Secret of the Unicorn*. These continuous shots fit under what Deborah Tudor has defined as "array aesthetics" in non-animated cinema driven by its digital content. Rethinking the shot as the "basic cinematic unit," these computer-animated films provide spectators with moments in which they are able to "access information within one shot that would not be available from one point of view."[49]

Through its Luxo worlds, the computer-animated film genre makes demands on its spectator for a more active reading of its animated spaces. But the play with the ontological *infinity* of the virtual horizons of a Luxo world, as an animated environment, works in conjunction with the *affinity* between spectators and the digital population who reside within the fiction. The animatedness of computer-animated film worlds obliges

spectators to consider the relationship between the fictional world and its characters as residents of the fiction. Characters are, of course, a key part in all of cinema's world-building activities. As Uri Margolin puts it, "narrative must be about a world populated by individuated existents."[50] Luxo worlds are bound by certain cultural and historical parameters, but are not entirely impervious to fictional disruption in the form of fictionally anonymous characters. *Fly Me to the Moon* (2008) and *A Monster in Paris* offer fictionalised accounts of real events, and they weave together fictional characters with the launch of Apollo 11 and the flooding of the River Seine in January 1910 respectively. A film like *Ratatouille*, unfolding in the modern-day French capital, uses the character of Chef Auguste Gusteau to provide an entirely fictitious history of Fine French Cuisine. The fictional Gusteau crafts Paris an *alternate history*. He does not transform the city into an *alternate* or *other-wordly* place. This is because he constitutes part of the "unifying consistency" of fictional worlds, and one of the primary ways worldness has been defined by scholars. A fictional world, Tanya Krzywinska argues, must "have a history," and "past events that constitute the current state of affairs."[51]

Perkins has also considered that since characters are in a world "their knowledge of it must be partial, and their perception of it may be, in almost any respect, distorted or deluded."[52] With his initially unwavering belief that he is a real Space Ranger, Buzz Lightyear is the benchmark here, though we might also add the eponymous canine *Bolt* who believes his involvement with a fictional television programme gives him impossible superpowers in the real world. Both *Toy Story* and *Bolt* dramatise the partiality of characters' knowledge, defining them in relation to sustained delusion and misinterpretation. But what specifically distinguishes Luxo worlds is the degree to which they are enabled by the technology and their animatedness to be populated in altogether different ways. Computer-animated films are traditionally ensemble films with strikingly large casts. Aside, of course, from those occasions in which the narrative

calls for the fictional world to be stripped of its population. A pivotal flashback sequence in *Cars* reveals how the thriving town of Radiator Springs on Route 66 became a sparsely populated, forgotten community with the arrival of the highway interstate. As protagonist Sally Carrera remembers, "the town got bypassed just to save ten minutes of driving." The ruined and tarnished Luxo worlds of *Wall-E* and *9* (2009) also bear the harsh scars of their fictional histories (and, indeed, their futures), with indelible traces of apocalyptic events that have altered each screen world from its original, populated state. But Luxo worlds are conventionally heavily and densely inhabited. Crowd simulation software refined during the late 1990s, such as "Attila" and "Dynasty," has been a core component of computer-animated film production. When rendering the flowing river of rodents in *Ratatouille*, an updated crowd system was mandatory to accommodate the rats as a featured foreground element. In a technical memo circulated around Pixar, David Ryu and Paul Kanyuk explain how the secondary rodent crowds were required to have the same level of 'nuanced articulation' as primary animated characters (known as Hero animation), who are typically more detailed and given more expressive movements (individual skeletal and joint structures).[53] The result was a believable rat colony which ebbed and flowed, and whose co-ordinated behaviour and fluid momentum was a symptom of the complex animation pipeline implemented.

To employ Kristen Whissel's term, the "digital multitude" has become a signature feature of a Luxo world and its particular kind of population.[54] "Massive," the title given to the commercial crowd system used for *Brave*, *The Ant Bully* and *Happy Feet*, and used to render Charles Muntz's pack of dogs in *Up*, draws attention to the impressive scale in which such complex systems operate. Vast crowds, hoards, armies and swarms are used as a dynamic optical effect, which exploits and consolidates the vastness of the fictional space.[55] Frenetic onscreen anarchy provides delectable diegetic presence, as the multitude moves from background to foreground and along horizon

lines, their movements through the space showing and showcasing its expanse. The fleeing townsfolk raised into panic that the "sky is falling" in *Chicken Little*; the hordes of Emperor penguins who dance across the Antarctica landscape in *Happy Feet*; the roaring and cheering Scottish natives in *Brave*, and the army of minions in *Despicable Me* are all collected within the film frame (Fig. 2.2). The mise-en-scène is often designed to augment the sense of organised chaos, emphasising vibrant movements of a crowd participating in complex interactions with the impression of organic movement. The underground colony in *Antz* is organised by a network of interconnecting tunnels. The arteries of this underground metropolis (parallels to Fritz Lang's early silent film are clear) are pulsing with insect workers, each action enhancing the scene's heightened levels of background activity. It is typical for these collectives to be presented to two sets of astonished spectators. The first, an enraptured audience housed within the confines of the cinema auditorium, and the second, an onscreen witness whose astonishment is textually figured to spotlight the multitude's sheer vastness and scope. For example, the multitude plays an integral role in the sequence showing Rodney Copperbottom's arrival at Robot City in *Robots*. Rodney's alienation is augmented by the bustling crowds which meander around him (reflected in the polished train station floor to further 'double' their visual presence). Spectators both observe, and then share, Rodney's bewilderment when faced with the literal nuts-and-bolts of the city whose system of pulleys and cogs whirr into life around him.

These spectacular *moments of multitude* arbitrate the spectators' exposure to a Luxo world. The multitude inhabits the fictional world three-dimensionally, providing a dynamic play of foreground and background spaces that is unachievable to the same degree in cel-animated cartoons. Computer-animated films display a strong spatial initiative, invested in the scope and dimensionality of its worlds and invoking the behavioural capabilities of the multitude to craft depth cues and spatial orientation. A

visual polyphony, computer-animated characters flow effortlessly into the recesses, alcoves, corners and cavities of the fictional Luxo world. Such spatial connections between populace and virtual space are best demonstrated by *Wall-E*. During the film's climax, in which the AXIOM spaceship dramatically tilts following a tussle between Captain B. McCrea and the rogue autopilot, the large (and, due to their oversized and obese stature, *enlarged*) human characters are suddenly thrown from their hover chairs. Freed from their regulated pathways, they helplessly cascade, tumble and pour through the space(ship), disrupting the rows of recliners whilst bumping, knocking and striking one another, before eventually coming to rest in a large mound collected in one of the AXIOM's many corners (Fig. 2.3). But the multitude within a Luxo world need not just stretch far back into the space (to emphasise the dimensions of the space itself), but can be deliberately concentrated within an even smaller locale. The fairytale creatures packed into Shrek's swamp (causing the grumpy ogre's disdain) in *Shrek*, the army of rats preparing gourmet cuisine in Gusteau's kitchen in *Ratatouille* and the hyperactive infants at Sunnyside Daycare in *Toy Story 3* are all multitudes enclosed within noticeably smaller surroundings.

The "digital multitude" can be evaluated for its contribution to world-building, and in particular as a site of animatedness that distinguishes a fictional Luxo world. The population in a computer-animated film is inseparable from the world in which it resides, and there is a placement of characters that *opens up* the world by simultaneously *filling in* its spaces. These associations between the populated and the population are an attribute of a Luxo world's production. Whereas in cel-animation characters are literally layered *on top* of the world (the background cels) and photographed frame-by-frame, in computer-animated films characters are built three-dimensionally, usually out of clay, before these sculptures are scanned into a computer and then inserted *into* the world (a process known as *blocking*), dressing the set with

their residency and anchored to the space. Characters need a performance space in which to manoeuvre and an environment that houses their behaviour, and the various computer-animated spaces are refined to accommodate their many virtual bodies. Another vital element of the multitude relates to the fluctuating levels of autonomy, automaticity and artificial intelligence given to its various constituent parts. Plotted in *Toy Story 2* with the multiple Buzz Lightyears each governed by individual personalities and behavioural impulses, the multitude is regulated by complex animation cycles and loops of activity. Run primarily using technological scripts, which provide an automated system of agency, characters function, as Ann Marion puts it, like "puppets that pull their own strings."[56] Just as virtual geology pushes up the landscapes in an automatic, programmed fashion, some characters within the multitude may be choreographed to remain idle, while others turn and shuffle randomly without awkwardness. The sophistication of the crowd simulation software allows each member of a multitude to be governed by a set of unique directives and instructions. Isaac Kerlow argues that in *A Bug's Life*, "there were over 430 crowd shots with about 600 distinct crowd characters."[57] Sarafian adds that rather than build one ant and then "copy and paste" it into batches, the technology enabled specific attributes and distinct behaviours (such as curiosity, anger, incredulity, happiness and nervousness) to govern over a thousand ants in one shot.[58] This degree of independence allows individuals to be identified within a group, a living organism such as a colony or a hive broken down into its constituent parts. The narratives of non-conformity in *Antz*, *A Bug's Life*, *Bee Movie* and *Ratatouille* reflect such fragmentation of the multitude through a protagonist who desires to reject that which is pre-programmed, whether rebuffing a regimented dance routine (*Antz*) or declining their allocated labour roles (*Bee Movie*).

Luxo worlds are busy worlds. The heightened levels of activity and vibrancy, and the multiple planes of action, which draw in our viewing eye, are one of its most

defining features. In this way, Luxo worlds can be viewed as central to a culture of exchange between cinema and videogames, a platform whose worlds are similarly acts of style and products of rhetoric. To borrow a term popularised within the videogame sphere during the 1990s, Luxo worlds can be considered a particular kind of "open world."[59] Jettisoning the conventional "level" format in which gameplay sediment accumulates as the gamer progresses, an open world videogame provides a vast, expansive and highly-detailed virtual landscape that, as Scott Lukas acknowledges, "gives the player a world that seems limitless."[60] Many open world games, for example, include a map either as a backdrop to the seemingly unscripted, nomadic in-game experience, or as a printed accompaniment. For the production of *Monsters, Inc.*, *Cars* and *Monsters University*, detailed maps were produced of the Monstropolis, Radiator Springs and university campus locations respectively, awarding each environment a geographical coherence and revealing the state of affairs within the virtual territory. With spectators sutured into a logical, appealing and ambitious space, Luxo worlds are rich and richly-developed environments that feel spatially, and indeed formally, open. Fractal geometry builds the vast digital world, one whose impressive brevity is spotlighted first through candescent lighting, and then again by vicarious camerawork that carves through the geography. High-density flocking crowds then enter and exit the frame: a particular kind of ambient virtual population comprised of (often hundreds of) self-directing characters purposefully negotiating the three-dimensional terrain.

A Luxo world might also be considered open through other more, self-reflexive, strategies. Intertextuality holds a bonus function across computer-animated films by adding a further layer of openness to the fictional Luxo world. The Pixar studio has played with the notion that the narratives of each of their feature-length films (including several short films) occur within the same Luxo world. Multiple references to fictional companies (such as Buy N' Large, Dinoco and Pizza Planet) recur across each of the

studio's films. Grown from fractal geometry, the distinctive Pixar Tree that features as one of the central locations during Carl and Ellie's courtship in *Up*, has been standing tall since *A Bug's Life* as the focal-point of Ant Island. It is also the same tree under which Jessie is left by her owner Emily in *Toy Story 2*. But Jessie is not only a children's toy within the fictional world of the *Toy Story* films. She is also owned by Boo in *Monsters, Inc*, just as Mr. Incredible is both a superhero living (albeit covertly) in the fictional city of Metroville, and a comic book hero in *Finding Nemo*.

If a Luxo world is opened up by the rupturing of discrete textual borders, then what might be at stake in the broader openness with which it is experienced? Stanley Cavell suggests that "a painting *is* a world; a photograph is of a world."[61] He argues that "you can always ask, of an area photographed, what lies adjacent to that area, beyond the frame. This generally makes no sense asked of a painting."[62] A Luxo world certainly does not, and cannot, exceed the portion glimpsed, and thus it "makes sense" that computer-animated films encounter their edge at the film's frame. But we might say that computer-animated films playfully engage with the loss of their centripetal frame, and gesture towards the centrifugal spatial qualities of photographic cinema. The sheer scope of a Luxo world and its levels of spatial freedom involve the genre in a playful illusion that the narrative is an unfolding line progressing through a broader fictional space: whose internal richness has enabled this, but also many other possible narratives left unrealised. By constructing its Luxo worlds as spatially open, computer-animated films ultimately provide a striking example of Jean Mitry's observation that "a film is a world which organizes itself in terms of a story."[63] All animated worlds *are* the film organised for the purposes of a story, and their creation from scratch is an unavoidable act of narratology. But a Luxo world presents its events as if they were unfolding *of* a world. This is because the film frame threatens to burst at the seams with its visual information (and indeed intertextuality achieves this fictional "leakage"). But this only

plays with the existence of a frame at all. The spectator glimpses a snapshot of a densely-populated and rich world that is slipping, or in the case of the climactic AXIOM sequence in *Wall-E*, literally falling off the edges.

By mapping something of its lively cinematic geography, the Luxo world can be further linked to two areas of interest across recent animation scholarship: the views advanced by cultural theorist Paul Virilio concerning the blur and "lost dimension" of modern life, and the business and motive actions of the animated line.[64] As we have seen, computer-animated films have been criticised by Sobchack for effacing their labour. According to this reasoning, our stuttering lived experience does not take solace in digital imagery, and instead finds a greater corollary in the lapses, imperfections and spatial disjuncture of cel-animation and stop-motion. But by invoking the fluidity and fluency of a Luxo world, and its particular sites of animatedness, a claim can be staked that computer-animated worlds *do* replicate something of our modern experiences. Virilio has argued for the elusiveness of reality within a modern crisis of the physical dimension as homogenous and continuous. Time has overtaken space, with speed now the "primal dimension that defies all temporal and physical measurements."[65] Computer-animated films are a staple of moving image culture, but they are also a culture of animated images that move. Their worlds embody the "speed spaces" outlined by Virilio. The openness of their worlds, but also the busy activities of those who reside there, places emphasis upon the world as action. As Virilio has added in a recent interview, "whoever controls the territory possesses it. Possession of territory is not primarily about laws and contracts, but first and foremost a matter of movement and circulation."[66] The multitude certainly dominates the Luxo world, ebbing and flowing through the space to draw attention to the haste with which it moves. But the behaviour of the multitude only stands as emblematic of the surrounding fictional world. Luxo

worlds are not homogenous spaces, but are loaded with fluctuating urgencies of movement and uneven and heterogeneous speeds.

The visible energy of a Luxo world finds another analogue in the recursive and repeating animated line, a fundamental feature of animation enforcing its animatedness. Computer-animated films are built from multiple conceptions of the line. Basic information lines of binary codes, as well as detailed wire-frame matrixes used to create the details and decor (including characters). The computer-animated space might even be explicitly partitioned by lines of continuous marks made upon its textual surface. These include the hurrying procession of ants which adorn the colonies in *Antz* and *A Bug's Life*; the luggage conveyor belts in the climactic airport sequence of *Toy Story 2*; the impressive library of doors in *Monsters, Inc.* suspended on rails; the Honex Corporation's twisting monorail system in *Bee Movie*, and the AXIOM's automated pathways in *Wall-E*. But just as the expressive freedoms and transformative activity of the animated line (as graphical inscription) belongs to animation to distinguish it from live-action, computer-animated films create fictional worlds that appear to draw and then re-draw themselves. A Luxo world continually lays bare the vibrancy of its own existence, foregrounding its distinctive ontology and its animatedness though the spectacle of its multi-directional characters, and the open world of which they are a vital part. Émile Cohl made it impossible (though not frustratingly so) for the spectator to predict the fate of his ever-changing and highly improvisational animated line in *Fantasmagorie* (1903). A Luxo world is similarly arresting and gratifying because its spaces are filled with an impulsive energy. As a fictional realm, it is ultimately one *of agency*: highly industrious and perpetually on assignment. Computer-animated films offer up (and *open* up) their many screen worlds for our appreciation and enjoyment, and in doing so draws and redraws the cartography of the animated map. It is the

vibrancy of a Luxo world, and the proficiency of its pictorial space, which will now be taken up in the subsequent section of this chapter.

"I'm not a real boy, I'm a puppet!" Rethinking the anthropomorphic tendency of computer-animated films.

> Why on earth are we moved by the experiences of figures which we know neither exist nor have existed?[67]
> ----- Murray Smith, "Film Spectatorship and the Institution of Fiction"
>
> Films are full of people, but what is this 'fullness' of people in films?[68]
> ----- Stephen Heath, *Questions of Cinema*.
>
> This is me. I think it's apparent that I need to rethink my life a little bit. What's my problem? First of all, I'm a rat. Which means life is hard.
> ----- Remy, *Ratatouille*.

The current orthodoxy concerning the construction and engagement with fictional animated characters is their cohesion around dominant personality traits and predictable humanlike behaviour. At the root of this continuity sits the well-established practice of anthropomorphism, a creative and interpretive model that commonly works to index recognition and identification through a familiar human vocabulary. With etymological origins reaching as far back as 6th Century Greece—combining ἄνθρωπος (ánthrōpos) defined as human and μορφή (morphē) meaning shape or form—the endowment of creatures, inanimate objects or abstractions with human ability, proportion, intentionality, purpose and volition has, according to Paul Wells, remained the "consistent locus" of animation.[69] Patrick Power agrees that persuasive "anthropomorphic personification" is a defining register of animated aesthetics, so "pervasive in cartoon and 3D feature animation that it is virtually synonymous stylistically with these genres."[70] Animation's evolution from hand-drawn to digital systems, from painted cel to single-point pixel, has done very little to moderate anthropomorphic representation. The earliest cycle of computer-animated shorts produced under the creative guidance of John Lasseter during the 1980s, and the Pixar studio's initial foray into digitally-animated television commercials, followed their technological ancestors by assuming an anthropomorphic approach. With the release of

Toy Story and the emergence of the feature-length format, "persuasive" anthropomorphosis had reached, in the words of Andrew Darley, an "extraordinary" level.[71] Anthropomorphism has remained firmly embedded within the critical lexicon of computer-animation scholarship. It is equally an uncontested and oft-cited buzzword of popular discourse, broadly signifying the ascription of humanlike qualities to virtual characters as they intentionally act, and move seamlessly within, a three-dimensional cinematic space.

Given the frequency with which animators, scholars and critics alike continue to return to anthropomorphic representation, one logical conclusion is that such personifying strategies are neither a new kind of cinematic pleasure and formal mode of representation, nor an exclusive marker of animation in the digital era. This theory is based on the practical assumption that anthropomorphism remains a necessary requirement, continually revived by animators to pique recognition, interest, empathy and compassion in the animated figure being observed. Cognitivist Torben Grodal argues that:

> When watching a visual representation of phenomena without any centring anthropomorphic actants, we often 'lose interest' owing to lack of emotional motivation or the cognitive analysis of the perceived, a fact which many makers of experimental films have discovered when presenting their films to a mass audience.[72]

Lasseter had certainly highlighted the value of anthropomorphism when giving his well-received and influential industry paper at a SIGGRAPH conference in July 1987, in which he discussed the necessity for appeal and personality across computer-animated characters. Speaking at length about his short films *The Adventures of André and Wally B* (1984) and *Luxo Jr.*, Lasseter observed the desire for anatomical magnetism and perceptible "charm" rooted in the display of numerous human archetypes that compensate for the fact "the live-action actor has charisma."[73] For the early pioneers of computer-animated technology, this allure (and the success of the character to be read as

'true' by the intended child audience) was communicated through an anthropomorphic schema: humanlike body dimensions matched with the hypothetical behaviour of objects under a range of emotional states. But within the representational field of anthropomorphism, little distinction has been made between the pre-war era of Felix the Cat, Mickey Mouse and Bugs Bunny and contemporary computer-animated anthropomorphs that populate a Luxo world. Computer-animated films have been subsumed into a broader creative anthropomorphosis, which represents a "curious mix of 'fantasy' and 'reality' in which the spectator can recognise human traits in simple *drawn* (and frequently) animal figures."[74]

To open up new avenues for discussion within animation scholarship, and to acknowledge the textual implications of the switch from pencil to pixel, this chapter will rethink anthropomorphic representation and animated animality in the computer-animated feature film. To do so will involve some semantic reconfiguration, thinking more conceptually about the form or morphē component of the anthropomorph that so often populates a fictional Luxo world. The guiding principle of this enquiry will be to approach and elucidate anthropomorphism by forging a more fluid connection between the digital constructs of anthropomorphic character and diegetic world. Approaching anthropomorphism from this angle reveals how computer-animated films have maximised the scope of anthropomorphic thinking. Animators not only cultivate characters of 'plasmatic' form so heralded by film-maker Sergei Eisenstein, but exploit the non-human morphē element to manipulate virtual space through anthropomorphic subjectivity. By interrogating more directly the in-between and fractured identity of the anthropomorph as a hybrid figuration between poles of animacy and inanimacy, computer-animated films can be understood differently, and the default manner in which anthropomorphism has previously been understood in critical studies of animation revised.

Many writers have reflected upon why animated films have been consistently gripped by anthropomorphosis, their worlds often anthropomorphous in invention and design. There are certainly correlatives between animation and anthropomorphism as artistic models. From a functional standpoint, both have been intertwined under the guise of the linguistic apostrophe, as deployed specifically in the grammatical strategies of poetry. The bestowing of possession upon lifeless entities clarifies how apostrophic language holds the "capacity to give life and human form to something dead or inanimate."[75] Consider, as Barbara Johnson does, the rhetoric of Percy Bysshe Shelley's Ode to the West Wind (1820), which begins with the personification of the meteorological force as "breath of Autumn's being," and later defines it as a "Wild Spirit, which art moving everywhere." The resulting effect of these stanzas, according to Johnson, is that the apostrophe (as a possessive case) functions as a device of "rhetorical animation." She continues:

> The absent, dead, or inanimate entity addressed is thereby made present, animate, and anthropomorphic. Apostrophe is a form of ventriloquism through which the speaker throws voice, life, and human form into the addressee, turning its silence into mute responsiveness.[76]

In slipping so regularly from anthropomorphism into animation, a striking connection is forged between the two concepts: whenever an entity is apostrophized it is, thereby, "automatically animated, anthropomorphized, 'person-ified'." To anthropomorphise becomes, in effect, to animate: to join conflicting entities through possession, 'throwing' life into that which is silent, and illuminating all manner of phenomena in comprehensible human terms. Despite the synonymy of the two creative processes, animation simultaneously *serves* anthropomorphism as an autonomous, *graphic* manifestation of its idioms. If the poet has the power of language and rhetoric, so too the artist can call upon the authority of the animated line, and now the power of the pixel, to test, exaggerate, adapt and clarify personification, intention and subjectivity. Through its status as a visual simulacra, animation can dilute or attenuate "a diversity of

representational positions," including any number of issues including gender, race and ethnicity.[77]

Animation performs a variety of functions within anthropomorphic representation, animating the kinds of civilising approaches to the non-human which, as Cliff Hamilton suggests, is something us humans have been undertaking for "as long as there has been a developed form of communication."[78] Béla Balázs has defined this hard-wired presumption of human consciousness onto the non-human as an inevitable "anthropomorphous world-vision," the unavoidable psychological state which involves the perception of a human physiognomy within every phenomenon.[79] The often irrational, but nevertheless intuitive, attribution of human behaviour and rationale to a variety of social and cultural agents is especially common in the formative subjectivity of childhood. It explains why young children are frightened by "the grinning furniture in the dark room or the nodding trees in the dark garden."[80] The narrative of *Monster House* reflects how humankind (and particularly children) inexorably tends to see the distant echoes of a human face and form, unable to sense artefacts without perceiving and projecting a series of familiar visages. Telling the story of a dilapidated house feared to be sentient and monstrous by local children, *Monster House* operates at the juncture where anthropomorphosis and animation intersect, its characters functioning as surrogate animators/anthropomorphisers. Deploying the generic trope of the haunted house (an antecedent of the "grinning furniture"), love-interest Jenny is stimulated by the eerie building's design and provocative shape. Standing on its wooden porch, she utters "Well, if those are the teeth, and that's the tongue, then that must be the uvula!" (to which another child replies indignantly "Oh, so it's a *girl* house!"). The irony of *Monster House*, of course, is that the impression of humanlike inanimate phenomena is followed by the revelation of the home's true identity: it really is a devilish, child-eating construct (a malevolent reincarnation of its previous owner). Through the virtues of

animation, then, is that the children's nightmarish personification in *Monster House* can be sinisterly realised (Fig. 2.4).

Eisenstein was particularly entranced by the expressive "humanisation of animals" and anthropomorphism in Walt Disney's *Silly Symphony* series (1929-39), eulogising over the protean, totemistic anthropomorphism created by the continuously transforming animated line.[81] The substitution of animals for people (to function *as people* themselves) marked "a displacement, an upheaval, a unique protest against the metaphysical immobility of the once-and-forever given."[82] As the Russian film-maker exclaimed, "You tell an octopus: be an elephant, and the octopus becomes an elephant."[83] This mocking of zoology and ecological norms was famously labelled as "plasmaticness," the ability of the animated figure (operating as a flexible, primal protoplasm) to "dynamically assume any form." Eisenstein's voice can still be heard in descriptions of animation today, testifying to the anthropomorph's basic visual curiosity. Maintaining a kind of Eisensteinian ecstasy for contemporary computer-animation's fusion of nature (inanimate) with culture (intellect), Power argues that the contours of characterisation in animated storytelling—the aesthetic manipulation, exaggeration, transformation and subversion of form—is something which "animation offers far more affordance to achieve [...] than do many of the other arts."[84] He argues further that "the idea of a rat in a restaurant would normally evoke disgust, but Remy the rodent/chef anthromorph in *Ratatouille* is more likely instead to engage and intrigue aesthetically."[85] Such admiration for the captivating anthropomorphic form instantly evokes Eisenstein's summary of the irresistible changeability of Disney's animated characters, and their suddenness of (re)formation: "what's strange is not that it exists. What's strange is that it attracts!"[86] The spectator's revulsion at Remy's preparation of gourmet cuisine becomes instantly gilded by the ecstasy of witnessing a non-human segue seamlessly into agency. As Eisenstein might have uttered of *Ratatouille*, "You

tell a rat: be a Chef, and the rat becomes a Chef" (Fig. 2.5). The magnetism of the anthropomorph is rooted in its status in flux: it is neither human nor other, but "on the edge of chaos, both at once."[87] The animated anthropomorph shimmers as an intrinsically ambiguous and fragmented agent, a mix of competing (and reciprocating) personalities and scenarios, and split by the rhetorical separating body the boundary or 'slash' that divides 'rodent/chef.' The 'slash' is a semantic synecdoche confirming the anthropomorph's chaotic identity as a combination of multiple forms. This schizophrenia between the ánthrōpos and the morphē, has led Wells to coin the "*Madagascar* problem," which describes the often tricky negotiation of animal and human discourses within the politics of identity, in relation to narrative coherency, plausibility and the preservation of "true animal actions."[88]

Computer-animated films engage the confrontation of animism and humanism with a greater degree of fluidity between the components on either side of the Barthesian 'slash.' Across the genre, animators have looked to rigorously, and with marked consistency, exploit the etymology of the anthropomorph in terms of its fractured and hybrid state. The presence of the paradigmatic 'slash' in Power's description certainly raises an important question about which of the two identities in the anthropomorph should be ranked most 'animate.' However, I wish not to reinforce the slash as fixed or immovable, nor eliminate it entirely, as each move would only muddy the waters even further. To begin to examine how computer-animated films typically mix human and non-human registers, the slash needs to be reconceptualised as a fluid conduit through which ánthrōpos and morphē constantly interface and manoeuvre. This permits the traditional values of the anthropomorph (the privileging of human connotation) to be tacitly reversed and restructured, to form new power-relations and anthropomorphic compositions. Within the splintered phraseology of anthropomorphism, morphē now holds the ability to trump ánthrōpos, form over

humanity, in what is a hierarchical switch *away* from humanlike behaviour: an act that undoes many of the founding assumptions of anthropomorphism in studies of animation.

Computer-animated films often exchange anthropomorphic recognition that piques spectator interest through human connotation, for the opposing forces of the non-human aspect, or morphē, immanent to the anthropomorph's split-identity. Of additional relevance here is the concept of *therianthropy* and *therianthropic* images which, according to Simon Baker, combine "the form of a beast with that of Man," but do so in a manner that relates to the metamorphosis *from* original human form *into* animality.[89] Combining ánthrōpos with θηρίον (theríon) meaning beast or wild animal, *therianthropes* exist as human figures with animal features, traits or tendencies, and are characters especially common to mythology and fantasy genres. However, the manner in which Eisenstein describes the poetization of "man in an image—in the form of an animal," articulates a strong *therianthropic* rather than anthropomorphic mode of thinking in early animated storytelling.[90] *Therianthropy* is a useful model for identifying several representational norms of traditional animation. Prior to the advent of digital technology, animated characters were often *therianthropic* avatars for the animators who created them: constructs which specifically privileged human connotation over an engagement with their non-human morphē. Walt Disney's twenty-sixth animated feature *The Great Mouse Detective* (1986) offers an obvious analogue to debates on contemporary computer-animated anthropomorphism. The "mouse detective" character in the Disney film's title prefigures the rodent/chef description of *Ratatouille*'s Remy, and thus corroborates (rather than invalidates) the splintered identity that has underpinned the animated anthropomorph as a hybrid figure. Closely following a *therianthropic* representational style, the grafting of human schemata, mannerisms and intellect upon Basil the eponymous mouse/detective forfeits several nuances of rodent

behaviour. He communicates little about mousehood and the tribulations of being a rodent living in nineteenth-century London. Functioning as essentially a human clothed in beast (in this case rodent) form, Basil has more in common with the biological reality and lifestyles of Humankind. He smokes a pipe, plays the violin and his mouse-hole residence on Baker Street (our Baker Street of human proportion) is decorated with antiques and a roaring log fire. There is minimal engagement with his rodent identity (his morphē) and the film, like many of its 2-D predecessors opts instead to paint its worlds as strikingly *therianthropic*.

Animation scholars may query this assumption that pre-digital animation failed to raise questions about the anthropomorph's morphē. What about the celebratory musical number "Everybody Wants to be a Cat" from *The Aristocats* (1970)? Or Lumière's "Be Our Guest" song-and-dance routine in *Beauty and the Beast* (1991) in which he claims to "do tricks" with his "fellow candlesticks," or the hyperactive Genie in *Aladdin* (1992), who constantly restates his mythological status as a supernatural force, explaining again through song that the eponymous Aladdin has "never had a friend like him." However, "Everybody Wants to be a Cat" is rendered a paradox by the cats that perform it. They have no trouble playing instruments, singing and dancing in a way that recognisably approximates to human form. Lumière, like his companions Cogsworth and Mrs. Potts, are literal *therianthropes*, cursed to live as a candelabra, clock and teapot respectively. Appropriated by the mechanisms of the established Disney happy ending, all are switched back into their original *human* bodies and reassume their prior roles as maître d', majordomo and housekeeper.[91] Finally, the Genie, whilst clearly not a *therianthrope*, is nonetheless morphed into a loose human appearance during the film's emotive 'happily ever after' climax, his *Pinocchio*-like quest to be 'set free' satisfied through his visual transformation into human shape. These celebrated returns to humanity contrast with Princess Fiona in DreamWorks'

irreverent *Shrek* who, in an emphatic rejection of ánthrōpos, shuns her human identity to remain trapped in what Lord Farquaad dismisses as "disgusting" ogre form.[92] A similar fate befalls *therianthrope* Dr. Cockroach in *Monsters vs. Aliens*, whose transformation into an insect from his original human form is one that the film chooses never to reverse.

The computer-animated movement into morphē reaches a climax in *Ratatouille*, Pixar's aforementioned culinary comedy telling the story of rat-turned-chef Remy. It takes its place alongside *The Great Mouse Detective* in a popular 2-D animated rodent tradition, which began with Mickey Mouse's *Plane Crazy* (1928), but which also contains *The Rescuers* (1977), *The Devil and Daniel Mouse* (1978), *The Secret of NIMH* (1982), *Heidi's Song* (1982), *An American Tail* (1986), *The Rescuers Down Under* (1990), *An American Tail: Fievel Goes West* (1991) and television series *Tom and Jerry* (1940), *Danger Mouse* (1981), *Tube Mice* (1988) and *Biker Mice From Mars* (1993), though there are a wealth of other examples. What distinguishes *Ratatouille* from this rat pack is a consistent admission of Remy's own rathood at the expense of anthropomorphic impersonations of human beings. The film begins with his voiceover narration, which laments the basic "problem" that he is a rat. "This is me," he concedes, in a gesture that self-consciously verbalises the inherent tensions and schizophrenia of a human/non-human character. Remy's admission also directly reverses the crisis of identity experienced by Ratigan in *The Great Mouse Detective* who claims that he is, in fact, "not a rat." Though Ratigan's riposte is designed to address "humanity" as the act of being humane and benevolent, his words also reflect the film's broader wish to maintain a fundamental humanity (ánthrōpos) to its characters over that of "rathood" or morphē. But Remy's narration also serves another purpose. Evoking Woody's angry retort to Buzz Lightyear in *Toy Story* that he is "just an action figure," Weaver's "you da ant" praise to fellow insect Z in *Antz* and Samson's motivational comment in *The*

Wild that "you're a lion, *be* a lion," *Ratatouille*'s narration instantly establishes the genre's self-reflexive treatment of one of animation's defining characteristics, that of using animals-as-characters. Later, Remy accompanies his father Django to an exterminator shop, whose window is adorned with a macabre display of dead rats, poisons and rat-traps. Andrew Osmond argues that this sequence reminds Remy how "rats and humans are natural foes," but it brings into relief the incompatibility of species *through* a visceral confrontation with both their own mortality and their existence as vermin.[93] The graphic shop-window display therefore resolves a question posed earlier in the film, in which Remy is heard briefly squeaking in his native rat tongue, rather than the American accent of comedian Patton Oswalt (who otherwise provides his speaking voice). The abrupt switch from human vernacular to high-pitched squeaks makes audible the inherent tensions of identity embedded within the anthropomorph. This moment also suggests that any shift away from ánthrōpos to morphē is neither finite, nor is it irreversible, but a fluid "dialogue" between the two possibilities.[94] The 'slash' dividing Remy's character is therefore carefully constructed to allow the digital character frequent, but perceptible, slips into non-human identity. *Ratatouille* encourages the audience to rethink the potential (im)balance of human representation and animality across animated anthropomorphism, offering a glimpse into how computer-animated films might begin to restructure its human/beast binary.

By erecting a more permeable and fluid boundary between ánthrōpos and morphē, the anthropomorph of computer-animation has itself "morphed" into more than simply a figuration of human resemblance. Rather than hold an anthropomorphic mirror up to human form and mimic its distinguishing characteristics or traits, computer-animators have begun to unravel the tensions and connections between ánthrōpos and morphē, the animate and inanimate, subjects and objects. In the computer-animated feature-film, there is a greater investment in the fluidity between the two poles, a deeper

interest in objects *as objects* rather than objects *as humans*: rats-as-*rats*, rather than rats-as-*chefs*. The reversal in agency from human ánthrōpos to non-human morphē is often articulated through dynamic point-of-view subjectivity, a degree of perspectival intrigue, and a continuous innovation of spectator viewpoint. The computer-animated film's engagement with the morphē has produced multifarious axes of action. The varying of angles and the reorganisation of the spatial coordinates within the Luxo world is the product of an anthropomorphic eye (the eye of the anthropomorph) that is constantly in positional flux. Transmitting the story in this manner creates a style of anthropomorphic narration couched in more vivid and visually dynamic terms, with a new saliency and forcefulness that has its roots in an anthropomorph who has rejected its human essence in favour of exploring the dynamic potentials of its morphē.

In tune with this new animated treatment of anthropomorphosis, the anthropomorph itself has shifted into new territory and begun to assume alternate textual properties. Characters such as Remy have evolved into more prescriptive and functional agents: part of the computer-animated film's textual system, which controls, expands, modifies, limits, and alters spectators' access to that which unfolds in its fictional Luxo world. Through an engagement with their subjectivity, the spectator is optically guided by the anthropomorph through various diegetic *matter*, transforming it into *meaning*. The visual methods by which the spectator discovers and explores the fiction's spatial constituents and dimensions are not detachable from the anthropomorphic points-of-view from which they have been shown. As the hub of such diegetic information, the anthropomorph thus becomes, in Gérard Genette's terms, a narrative "focalizer" of the constructed fiction.[95] Focalization describes the angle of vision "from which the life or the action is looked at."[96] It is a term that can become a verb ("focalizing" or "to focalize") or adjective ("focalizor"), in a way that point-of-view and perspective cannot, and so it provides a useful method of examining the

animated anthropomorph's dynamic interaction with its digital world (the focalized).[97] Computer-animators regularly (re)construct the fictional world by using the spatial proximity of the anthropomorph (as a dominant focalizor), and the array of unexpected angles of vision that can emanate from it. One additional point to consider when examining how plot action or events are filtered through anthropomorphic perception, is to relate it to Seymour Chatman's work on "diegetic consciousness." This term pertains to the intellectual, emotional and perceptual parameters of a character in relation to its place in the fiction.[98] All that we *need to know* of the computer-animated world is, in fact, often all that we *can possibly know* from the anthropomorph's mediating perspective and primary consciousness (a primacy or immediacy to diegetic events). Personalising the space in this manner creates the Luxo world as aesthetically and stylistically anecdotal, a virtual reality that is visually channelled through the anthropomorph's individual activities, movements and viewpoints within, through and across it. Anthropomorphism in the computer-animated era can, therefore, be recast on the side of diegesis, and thus be seen to be involved in a wider discourse of fictional world creation, transmission and representation. Virtual Luxo worlds are not solely "lived" through an anthropomorphic humanity or recognisable "actants," but through an engagement with the anthropomorph's "diegetic consciousness" that is heavily inflected by its *other* identity as a non-human.

Let us return to two computer-animated films, *Ratatouille* and *Bee Movie*. Both have their Luxo worlds continuously narrated through disorientating, dynamic perspectives and an innovation of viewpoint that owes a debt to the computer-animated film's increased engagement with morphē. Ten minutes into *Ratatouille*, Remy and his brother Emile are confronted with a shotgun-wielding Grandma trying to rid her house of a rodent infestation. The action traverses both horizontal and vertical planes, and it is the manoeuvrability of Remy and Emile as they scatter that takes the sequence through

a variety of spatial levels: from floors, to tables, kitchen tops, along gas pipes and structural beams, to an explosive climax upon a swinging chandelier (which, in a comic epilogue, crashes to the floor to return the sequence back to a human level). A similar exploration of space occurs in *Bee Movie*. Protagonist Barry B. Benson becomes attached to the fur of a tennis ball, prompting a kinetic sequence in which the spectator follows the ball's unstable trajectory as it is served and traverses the net back and forth between the players. The ball then inadvertently leaves the court, propelling Barry into a maze of New York traffic, from which he is then sucked into the labyrinthine engine of an oncoming motorcar, the camera following his negotiation of the vehicle's pumps and pistons (Fig. 2.6).

The viewing positions on offer during these visceral sequences are unconcerned with satisfying a live-action promise, instead foregrounding the numerous capabilities and potentials of anthropomorphic representation. The space is consistently reconstructed and reframed through a sustained volley of conceptual and innovative viewpoints, the source of which being Remy, Emile and Barry, whose anthropomorphic eye is privileged over that of the other human characters who partake in the scenes. The visual experience of each sequence thus emerges from the immediacy through which each event is diegetically narrated, and the function of the anthropomorph as a focalizor of the action in soliciting such narrational modes. But within each film's broader allegiance towards the anthropomorph's subjectivity, it is ultimately the morphē identity, or "morphē eye," which is rendered most dominant, and central to how the scene is transmitted. The camera did not need to occupy such intrusive, exploratory and dynamic positions; the animators could certainly have located it elsewhere, telling the story from more conventional places within the fictional world. But it is the energy of the non-human morphē eye and its aptitude for spatial discovery that is used to inscribe the spectator into the Luxo world, and skew their perception of the events that unfold

there. Remy and Barry's take on the scene—their own specific focalized angle of vision as rat and bee protagonists—is animated to be the spectator's own viewing position. The sequences *as they are shown*, and the viewpoints disclosed, engage with the anthropomorph at the new level of morphē. The spectator is not confused by the text's subjective strategies, nor do the films yield to a disorder that edges the spectator closer towards absolute incoherence. Rather, *Bee Movie* and *Ratatouille* absorb and invite the audience (through the figure of the anthropomorph) to participate in a spectatorial game that sharpens their awareness of the virtual realm and its spatial dimensions (Fig. 2.7).

The action that takes place in computer-animated films is mediated and mobilised by the mobility of the anthropomorph, and by the film-maker's increased investment in the diverse potentials of the morphē. Yet such is the aptitude of the virtual camera (a revolutionary technical development even beyond non-animated cinema) that it is licensed to *ignore* the anthropomorph and manoeuvre *anywhere* it chooses. This is something Mike Jones is keen to stress when describing the spatial composition and vanishing points of *Monsters, Inc.*'s virtual camera, moving "in a way that defies time and space, ethereally beyond it."[99] Conceiving the unrestricted virtual camera as a "phenomenon of intangible and abstracted presence," Jones actually turns to the humanizing effect of anthropomorphosis, suggesting there is an "anthropomorphic embodiment" to the digitized space that creates the illusion that it has its own point-of-view: an "eye" because it is an "I."[100] However, this attribution of an omnipotent perspective downplays the concrete textuality, tangibility and presence of the anthropomorph as a particular *resident* or inhabitant of the fiction. In fact, it is the virtuosity of a virtual camera no longer restricted by human positioning, or by its status as physical apparatus, which can permit the relocation of subjectivity into the anthropomorph's "eye," a figure that through anthropomorphism itself already exists in the text as an animate "I."

This new tactile treatment of an anthropomorphic eye/I in computer-animated films offers a new fluency of surveillance for a spectator who is subsequently anthropomorphised as an embodied navigator of the virtual space. Such a process allows what Giuliana Bruno calls embodied tours of the 'cine-city,' a term especially resonant with the vigorous *Ratatouille* and *Bee Movie* sequences, in which the spectator shifts from a 'static contemplator' into a mobilised anthropomorphic state undertaking journeys in virtual space.[101] With perception freed from the physics of human perspective, computer-animated films can be illuminated by the systems of subjective variation and fragmentation formulated around what Gilles Deleuze has called "gaseous perception." This is an abstract, free-floating mode of expression that Laura U. Marks describes as akin to drug-induced delirium.[102] Breaking with the normal conditions of human subjective experience allows the audience to achieve an open flow of "hallucinogenic" perception that can be said to be experienced by objects, which are situated in their position of uncontaminated objectivity. As Deleuze puts it, this is "the pure vision of a non-human eye, of an eye which would be in things."[103] Not only do these observations accord with computer-animated films' repeated reliance on non-human protagonists, but the purity of a subjectivity "in things" describes the genre's spectatorial disengagement from human compositional logic. Gaseous perception therefore fits within the contemporary shift occurring in anthropomorphic representation: away from ánthrōpos (human subjectivity), and more towards the possibilities of the morphē (the object or 'thing').

There is certainly something compelling and "hallucinogenic" about a computer-animated "cine-eye" (itself an anthropomorphic means to describe cinema), which behaves like the randomized movement of a molecule or, for that matter, a rat or bee. Even the etymological roots of hallucination in Latin—meaning *to wander mentally*—are reflected in the capabilities of Remy and Barry for sporadic and erratic behaviour as

they negotiate the geography of their own "cine-city." The dislocation from physical constraints and spatial experimentation, following the disorientation stimulated by hallucinogens, is therefore not a delusion or mirage, for it has its roots in the concrete textuality and presence of the anthropomorph. *This* is the method, the "drug," which can induce in spectators such animated hallucinations. Indeed, Deleuze's claim that the gaseous "cine-eye" (Dziga Vertov's non-human eye) is "not the eye of a fly or of an eagle, the eye of another animal," gains additional significance in computer-animated films because the "cine-eye" can be precisely that.[104] Shifting away from the stable point-of-view of human subjects to the decentred and "gaseous" anthropomorph takes us briefly into another, perhaps more obvious, area of Deleuzian philosophy. Through an embodied "cine-eye"—whether a fly (*A Bug's Life*), eagle (*Valiant*) or any other non-human—computer-animated films enact Deleuze and Felix Guattari's concept of 'becoming-animal' which, despite being not strictly an anthropomorphic impression of humanity, remains concerned with the border between the human and animal. Here "becoming" is attained through an "unnatural participation" predicated on penetration and spectatorial embodiment.

Creative and fictional "becoming" is intrinsically related to animated anthropomorphism as an artistic process. It evokes both Winsor McCay (*how would* a mosquito operate?) and Lasseter, who declared at SIGGRAPH that anthropomorphic characters are embodied according to a fictionalised and hypothetical thought process.[105] The point-of-view (POV) shot becomes an intriguing tactic of "becoming" in this respect, especially as it involves the unnatural merging of human with anthropomorphic eyes. A subset of the eyeline match, the POV shot features in a wide range of computer-animated films as a technical flourish and emphatic display of subjective alignment, though each recurrence comes with its own implications. Structured around what Edward Branigan calls the "point/glance" shot and the

"point/object" shot, the repetition of the shot in computer-animated films spotlights its status as a key component of the genre's visual language, as well as confirming its role in labelling anthropomorphic characters as emphatic focalizors.[106] But it is also a stylistic device deployed by computer-animated films to involve their audience in a rhetoric of Deleuzian "becoming," whether this is "becomings-rat [*Ratatouille*], becomings-insect [*Antz*], [or] becomings-wolf [*Hoodwinked!*]."[107] The attraction of computer-animated anthropomorphism for spectators is the ability to momentarily reject their own ánthrōpos, cross-species, and take an embodied (rat's-eye or bee's eye) tour of the virtual Luxo world in the skin of another kind. The heightened flexibility of the anthropomorph as a non-human morphē permits it to surmount the limitations of a human (ánthrōpos) eye that is an otherwise fallible and immobile receptive organ. Through the animator's exploitation of non-human morphē over that of the figure's human connotation or ánthrōpos, the anthropomorph of computer-animated films ultimately becomes the pinnacle of putting "perception into things," into "matter," the pure vision of a non-human eye.[108] During each of these "becomings," the spectator (as perceiver) relinquishes power over the fiction to the anthropomorph, and must accept its subjectivity and its morphē as the mediating interface.

Networked across computer-animated films, the anthropomorph gives the film-maker license to experiment with the spatial horizons of the fictional Luxo world through conceptual perspectives and orientations, without impediment. The anthropomorph's sporadic behaviour and dynamism of movement (the morphē of its existence) continuously makes available a range of proximities and observation points, deployed to involve the spectator in a rhetoric of *seeing things differently* through the inhabiting and embodiment of place and space. Computer-animated anthropomorphs provide a fluid interchange of observation points and axes of action, constantly reframing or "deforming" the action to allow the spectator to perceive the events taking

place in a Luxo world through an inventive cinematic eye. Within this intensification of anthropomorphic subjectivity and its raising to a higher pitch of emphasis, the anthropomorph itself enlivens all corners of the virtual world in which it resides. Just as the library of mobile doors in *Monsters, Inc.* descend, dip, spiral and rove through the fictional space, the anthropomorph similarly crafts for the spectator innovative and inventive entry points into the virtual geography. The Luxo world is transformed into a state of Deleuzian "omni-directionality" in which no one angle is privileged, and whose spatial coordinates are varied through the continual exchange of the horizontal and vertical axes of action.[109] The arrangement of pixelated space and binary code in the computer-animated frame becomes activated in its entirety by the kinaesthesia and virtual virtuosity of the anthropomorph, whose gaseous, molecular contact with the virtual cartography is able to 'animate' each pixel into agency. Such connections between character and fictional world returns computer-animated films to one of the defining virtues of anthropomorphic representation within animation, that of Eisenstein's notion of "plasmaticness." There are distant echoes of Eisenstein's voice in Tobey Crockett's use of "protean" to describe his own fluid conception of a digital diegesis.[110] Computer-animated films return to, and revaluate, "plasmaticness" through the interactions between the anthropomorph and the fictional Luxo world that contains it. The 'slash' that splinters human and non-human identities is reconceptualised as a new plasmatic channel, through which ánthrōpos and morphē frequently intersect to form new power relations and anthropomorphic constructs. While animators may be heirs to anthropomorphic representations from hand-drawn techniques *past*, they have implemented digital technologies of the *present* to instil in the boundary a new protoplasmic instability that allows a more flexible engagement with the morphē. The "plasmatic" energy of the "slash" is then transferred to the surrounding virtual world through the anthropomorphic subjectivity, which reorients spectator viewpoint in a

process that renders the digital space highly changeable and dynamic. The "plasmatic" experience of a film's fictional Luxo world retains the same powers of seduction for the spectator as the animated line did for Eisenstein in the 1930s; its spontaneity, its "freedom of ossification" and omnipotence. The fictional milieu of computer-animated films has begun to adopt many of the values that have been associated with the anthropomorph, through their mutation into intensely *subjectivied* locales: a bee's movie, a toy's story or a bug's life. But the often discontinuous, disorienting exploration of "plasmatic" place and space within a Luxo world, and the ability of the spectator to "dynamically assume any form" (or, for that matter, any morphē), fail to compromise the validity of the fictional world as a world. The focalizing of computer-animated films by the mediating force of the anthropomorph, and it capabilities for reorganising the world's spatial coordinates, is part of a deliberately frenetic, aesthetic experience central to the genre, in which the spectator is constantly *shown* the geography of the virtual world, rather than simply left to *see* it.

"You can shine no matter what you're made of": computer-animated films and new object transformation.

> Children are fond of haunting any site where things are being visibly worked on. They are irresistibly drawn by the detritus generated by building, gardening, housework, carpentry, tailoring or whatever. In these waste products they recognize the face that the world of things turns directly and solely to them. In using these things they do not so much imitate the works of adults as bring together materials of widely differing kinds in a new volatile relationship.[111]
> ----- Walter Benjamin, "Old Forgotten Children's Books"
>
> In the grand scheme of things, the average piece of junk is probably more meaningful than our criticism designating it so.
> ----- Anton Ego, *Ratatouille*

The Luxo worlds of the computer-animated films are highly resourceful and marked by heightened levels of vibrancy, inasmuch as they are organised by a specific register of non-human agency, which grants any object the opportunity for a life of its own. But the genre's resourcefulness and imagination can be equally attributed to its inventive treatment of those objects which that inarticulate entities. These inauspicious objects are always consigned to linger as inanimate, lifeless matter. With respect to such objects, computer-animated films reject traditional codes of anthropomorphism by refusing to bestow upon them any humanlike intention or volition. Devoid of personification or any semblance of life, these objects become expressively 'animated' in alternate ways that confirm the spectator's presence inside a computer-animated film world. This is a genre that frequently modifies a broad range of common objects by giving them new and often highly industrious functions. Any kind of object has the potential to be unlocked and re-animated in this manner, to be suddenly freed from the obligation of identity. The fascination of computer-animated films frequently lies with the simplest of objects and ornaments. Dan North explains that just as early cinema audiences "may have been fascinated by rustling leaves, water and other simple natural views, now there is a trend for celebrating the CG rendering of simple things."[112] The

genre's mastery over the "simple things" is most commonly realised through a preoccupation with discarded waste, trash, junk and detritus: acted upon in equally simple ways that reconfigure their perceived worth. Choosing not to follow Remy's disdain for barely-edible leftovers in *Ratatouille* ("what we're stealing is, let's face it, garbage!"), computer-animated films are consistently drawn to the treasures of the unspectacular, accumulating and recycling bits of detritus, litter and scraps. Consider the piles of junk cascading towards an incinerator in *Toy Story 3*, the post-human landscapes laden entirely with trash in *Wall-E*, *9* and *Mars Needs Moms!*, the floating ruins of dead cities suspended in the sky in *Dragon Hunters* (2008), and the avalanche of discarded food forming Mount Leftover in *Cloudy with a Chance of Meatballs*. It is within such disorganised clutter and unwanted remnants that computer-animated films seek out their treasures, prizing those things whose values can be made foreign through imported mechanisms that disengage the object from its initial purpose. Re-energised and re-valued in this way, even the garbage so derided by Remy is awarded a new life as it is cast by computer-animated films in new roles. As one of the inquisitive ragdolls puts it when surveying the discarded wastelands portrayed in *9*, "these ruins are full of riches."

Animation can, of course, place under strain, and at any moment even abolish, the primary intention or purpose of an object that it represents. The action or activity that is viewed as proper to an object's original design often provides little resistance to animators' creativity and imagination, and there are few limits to what objects can ultimately become. In the early Mickey Mouse cartoon *The Jazz Fool* (1929), Mickey's anthropomorphic companion Horace Horsecollar removes his false teeth to use them as a xylophone during an exuberant musical number (before returning them to his mouth). Another short, *Plane Crazy*, has Mickey's pet dachshund contort his body into a rigid staircase so that his master might board a plane. The formal anarchy of the Warner

Brothers studio during the Golden Age period also routinely questioned the perception of an object's accepted utility. The possibility of establishing an alternate rule of order within animated worlds lies at the cornerstone of the medium's independence from live-action filmmaking, resulting in fluid boundaries of identity between objects and their sudden changeability. Indeed, Paul Wells argues that the pleasure of metamorphosis is "unique to the animated form." [113] It is this dimension of the medium that enforces its separation from other filmmaking contexts and narratives, in which everyday objects can be expressively handled as props. Gerald Mast credits performer Charlie Chaplin as a masterful "animator" who could prompt the transposition of objects "before our eyes."[114] Yet unable to alter the object's substance or matter, the limits of Chaplin's transformations conversely spotlight the capabilities of animated film to transform the literal into the figurative through spectacular visual metamorphosis. Wells argues that, unlike in animated film, the moustachioed comedian was only able to change the value of objects along what he calls a conceptual or "metaphorical" plane.[115] While the skill of performers Gene Kelly and Fred Astaire enabled them to figuratively coerce a mop or hat-stand into their dance partner, in *Fantasia* (1940) Mickey Mouse is free to transform a lifeless broom into a sentient and flexible companion. Other early animated stars were equally capable of altering the substance and utility of objects, often matched by their own self-mutilation and dismemberment. Michael Barrier notes that Otto Mesmer's Felix the Cat "could detach his tail and use it as anything from a spyglass to a grappling hook."[116] Larry Langman points out that Koko the Clown, a character created by Max Fleischer, "was capable of removing its head and using it as a baseball."[117] The fantasy of blatant impossibility was equally visible in the twenty-seven *Oswald the Lucky Rabbit* cartoons produced by Walt Disney studio during the 1920s. Barrier suggests that it was only when the animators jettisoned the physical absurdity of turning elephants into canons (in the 1927 short *Great Guns!*), or changing a bathtub into a towel (*Hurdy*

Gurdy from 1929), that Oswald began to close the gulf between himself and comic performers like Chaplin.

With its origins stretching as far back as the morphing objects and unremitting modulations in Cohl's *Fantasmagorie*, a precedent for object transformation can clearly be located in the earliest cel-animated cartoons. While the "hyper-realist" agenda standardised across Disney feature-length animation kept objects under transformative control, the pliant and polymorphous vigour of animation's early "multimorphic" worlds was never entirely supplanted.[118] Sean Griffin has identified examples of mercurial objects and volume flexibility in the anthropomorphic characters of Disney's *Make Mine Music* and *Melody Time* (1948).[119] The culmination of the American Golden Age situated magic and enchantment at the centre of the collapsing of an object's physical integrity. The "Higitus Figitus" musical number from *The Sword in the Stone* (1963) has Merlin coerce books and crockery into an elaborate dance routine, before they are shrunk into the magician's sack. As bemused onlooker Arthur exclaims, 'what a way to pack!' Object transformation equally informs the recent magical narratives of Disney's *The Little Mermaid* (1989), *Beauty and the Beast*, *Hercules* (1997) and *The Emperor's New Groove*. It is also embodied by the 'phenomenal cosmic power' of the Genie in *Aladdin*, and has been recently revisited in the scheming voodoo sorcerer Doctor Facilier in *The Princess and the Frog*. It might be expected that computer-animated films would pursue a transformative agenda, particularly as they are armed with a digital technology whose abilities for effortless and instantaneous protean change have been widely addressed.[120] But computer-animated films have ultimately broken new ground for object transformation through a functional renovation that ruptures animation's elastic connection to metamorphosis. Reprising the visual effect of Kelly and Astaire's routines, and mirroring Chaplin's abilities to affect the "function and meaning" of objects rather than their material state, computer-animated films prize

objects according to their utilitarian value—that is, their constructive worth or usefulness—whilst preserving physical relationships and properties.

That is not to say that these enforced restraints in computer-animated films stifle the draughtsman's imagination. It merely reorients it. No longer mercurial and prone to lose their substance, objects in a Luxo world are continually made available for another possible use. The genre therefore engages with the life cycles and degrees of obsolescence through which the most common of objects conventionally live. Beauty in the form is realised through the creative flexibility of the function, suggesting that *things can matter* without altering *the matter of things*. Robert Wisnovsky makes a distinction between the categories of "existent" and "thingness" in objects, a distinction that unfolds in terms that recall the competing poles of ánthrōpos and morphē. Wisnovsky explains that "the 'thingness' of a cat – its catness – is what sets it apart from a horse, whose thingness, of course, is horseness."[121] Thingness centres upon the differentiating qualities that set that object apart from another. It can be equated in animation to its morphē or form, to that which governs, and gives definition to, its shape and structure. To refer to an object as an "existent," by comparison, addresses not *what* the object is or what makes it one thing rather than another, but to enforce "*that* the object is – i.e. an existent." Computer-animated films are, in other words, about the potential of things. They are heavily invested in the possible corruption of an object's "thingness," by alternating the function whilst simultaneously operating within the parameters established by the morphē. Objects thus become unfastened from their usual purpose not through substantial disguise, or through courses of dynamic action or pulsing rhythm. Rather, spectators are invited to witness objects that are (or, at least, hold the potential to be) perpetually transitional, but whose commutative impulses do not destabilise the virtual world of the film in which they reside. By submitting to the

object's form when creatively switching its function, computer-animated films craft dually stable and unstable worlds that manage spectators' perception of commonplace.

Antz outlines the conditions governing the kinds of object transformations that are permitted to occur within the computer-animated film. Its narrative seizes upon a multitude of discarded objects appropriate to its fictional world, in this case contemporary New York, and attributes worth by reassigning them new innovative identities. Lying undiscovered and known only through fabled accounts, the idyllic wonderland of Insectopia in *Antz* is revealed upon its discovery by protagonists Z and Princess Bala to be an accumulation of decaying and decomposing food collected at the foot of an overflowing litter bin (Fig. 2.8). If the spectator becomes quickly acquainted with the irony of Insectopia's worthlessness, the ants remain oblivious to the paradox of their "paradise." They revel in the luxury and opulence of their new surroundings ("Have you ever seen anything more beautiful in your life?"), and through their adoration the ants (re)value the clutter found in this land of abundance and perishable plenty. The scattered rubbish, discarded refuse and debris is salvaged from irrelevance and triviality, its prior rejection and shelf life relinquished in favour of a new afterlife. As Susan Stewart puts it, the "world of things can open itself to reveal a secret life," exposing not just a set of actions but a narrative and history "outside of the given field of perception."[122] A haven of appeal and invitation, Insectopia holds a "secret life" as the longed-for place of perfection for its anthropomorphic ants. But for the spectator, its narrative significance serves to multiply and revive those renounced things that comprise it.

Antz is not the only instance of human waste products that are retrieved and redeemed in such explicit acts of worship**.** *Over the Hedge* valorises cans of human garbage thrown out by a neighbouring residential community as an easy, and attractive, alternative to traditional foraging ("welcome to paradise"). *Bolt* includes a similar

sequence in which discarded leftovers are celebrated as a plentiful bounty by its anthropomorphic cast, while in *Shrek* the interior of the eponymous ogre's home is decorated with an abundance of human waste repurposed as trinkets and charms. A particular trope within computer-animated films is to recycle rubbish and waste as the backdrop for an entire community: the emptiness of rejected packaging is enlivened through its re-inscription as a highly 'animated' world. In *A Bug's Life*, the 'big city' visited by Flik is, in fact, a collection of discarded cans and takeaway boxes, arranged to recall the familiar geography of Times Square. Flik's amazement at his surroundings ('wow, the city!') is humorously offset against the truth of the architecture itself. Stained and scruffy at the corners, the detritus has been re-energised as a bustling metropolis, while even the local transport system announces all destinations to "the septic tank," including a stop at the "empty bean can" (Fig. 2.9). The miniature communities of *Valiant*, *The Tale of Despereaux* (2008), *The Ugly Duckling and Me!* (2006) and *Fly Me to the Moon* are also all crafted through discarded waste, while the Wild West town of Dirt located in California's Mojave desert in *Rango* incorporates rusty gasoline canisters among its saloons and shop fronts.

Computer-animated films thus commonly express a kind of objectified "role-play" testifying to the genre's broader refusal of a *therianthropic* aesthetic, one which would convey a miniaturised, proportionally accurate version of a human world. The genre instead creates its worlds from the often broken and discarded fragments of the spectator's own civilisation, maintaining their properties but re-conjuring and re-inflecting the function. Roddy's accidental discovery of an underground sewer version of "London" ten minutes into *Flushed Away* reveals a micro-city composed entirely of reclaimed items. Everything from the architecture to the modes of transport in this subterranean metropolis is compositional. This is a vibrant place whose culture and technology is based on scavenged junk. Salvaged washing machines, chipped porcelain

mugs, phone boxes, discarded food, a jukebox and even a portable toilet cubicle are all sculpted together into stylised versions of famed London landmarks. These imaginative model assemblages identify the city as a culture predicated on its sustainability. But they also re-badge its streets as a maze of elaborate and ingenious junk art. Populated by opportunist rodent junk artists, *this* London invokes a long and diverse history of art made from rubbish. Lawrence Alloway argues that the activities of junk art were made possible by the "throw-away material of cities, as it collects in drawers, cupboards, attics, dustbins, gutters, waste lots and city dumps." He writes that "junk culture is city art."[123] But the panoply of junk collected in *Flushed Away* is both *from* the city and now *constitutes* the city. The underground dwelling is not simply a repository for the discarded, but an inventive and intriguing space that draws in the spectator (and Roddy) through acts of creation, range and variation, and the re-making of that which is already-made.

These examples reveal how the switch in functionality is primarily achieved through the manipulation of scale. It is certainly not uncommon for computer-animated films to draw upon a simple language of scale and dimension to resize the pleasures of looking. *Jimmy Neutron: Boy Genius*, *The Ant Bully*, *Igor*, *A Christmas Carol*, *Monsters vs. Aliens*, *Despicable Me*, *Space Chimps 2: Zartog Strikes Back* (2010), *Hoodwinked Too! Hood vs. Evil* and *A Monster in Paris* all incorporate playful sequences of dynamic miniaturisation, and the (often comedic) shrinking of individual characters into miniscule proportion. For critic David Denby, *Antz* is a film that operates as a "terrific joke about scale," a joke that is initially told in the film's first image.[124] With a silhouetted New York skyline bathed in radiant sunlight, the opening reveals not a panoramic cityscape, but angled blades of grass, which resemble skyscrapers built to various heights, shapes and designs. The perceptual implication of *Antz*'s lawnscape constitutes a playful moment of misdirection, and invites the spectator to immediately

reconceptualise and reformulate their response to (the values attributed to) the most commonplace objects.

Within the worlds that computer-animated films create, scale holds the additional potential to redefine the most common household objects. Spectators are invited to reflect upon the actual size of the cultural detritus, junk and everyday objects being used in unconventional ways. It is ultimately a specific type of fictional world in which a single plant leaf is able to function as a parachute (*Ice Age: Dawn of the Dinosaurs* (2009)), wristwatches can be worn as belts (*Rio*) and a solitary matchstick can become a streetlamp (*The Tales of Despereaux*). The leftover provisions that fall uncontrollably from the sky onto Swallow Falls in *Cloudy with a Chance of Meatballs* become remodelled as life rafts, impromptu acts of reconfiguration made available only through the objects' new dimensions. The manipulation of proportional rules can be utilised as a visual shorthand to quickly dispense with an object's established function. However, it is spectators' movement *around* the objects in question that remains significant here. The objects themselves do not alter: there remains a fidelity to the form/morphē of the objects amassed together. The assembled food rafts in *Cloudy* retain a truth to their elasticity, viscosity and texture. Transformation instead occurs when the spectator is dropped into an imaginary space. Crossing the threshold of proportional absurdity to momentarily be made miniature, they are invited to take up residence in micro-communities composed of the waste products of urban life. Spectators thus enjoy and experience something close to what philosopher Gaston Bachelard calls the "interior beauty" of the miniature, given access to one of the last "refuges of greatness."[125] The fascination found in the miniature provides the narrative thrust of *Horton Hears a Who!*, a computer-animated adaptation of Dr. Seuss's 1954 children's book. Horton's intrigue in the micro-community Whoville, which resides as a tiny speck of dust sitting upon a flower (itself a revision of Bachelard's hypothetical house "set on

a pea"), reflects a computer-animated film genre drawn to the values of miniature thinking. The oversize spectator encounters from the inside out a Luxo world of rubbish pregnant with opportunities for new experiences, a captivating "inversion of perspective," which enlarges the everyday and permits them to find the large in what is small. Values of magnification and miniaturisation therefore unlock and unhinge objects from the constraints of just one function, the perspectives they invoke permitting spectators to view familiar scraps of their own world through fresh eyes. Stripped of several of the descriptive characteristics used to conventionally individuate them, these objects are renewed through their regeneration from eyesores to environments, from waste to worlds. Within such strategies of sustainability, spectators intervene only on the object's latest identity, witnessing the results of its creative restoration and capacity to endure. Labels and logos may serve as printed reminders of the object's original use (a drink can, a container for food), but this is an identity it has now shed. The original function is rarely made available, and so like the inhabitants of these worlds (whose engagement with the "empty bean can" will forever remain incorrect), spectators are invited to appreciate the intrigue of an object's potential afterlife.

Computer-animated films both celebrate and are phobic about populating the Luxo worlds they create with the detritus produced by mass culture. If Insectopia provides the benchmark for the genre's prizing of the discarded, a cross-section of the genre's narratives reveals a more diverse treatment of debris and detritus. The wilting vegetation and plant life in *Bee Movie*, the desolate wasteland partitioned off from the colourful city of Thneedville in *The Lorax*, and the rundown and rusting town of Radiator Springs in *Cars*, all pose waste and detritus as the consequence of ecological devastation, apocalyptic abandonment or as a result of anthropological neglect. In *Megamind*, the eponymous supervillain takes perverse delight in dumping waste across Metro City, transforming its Luxo world into a vast junk yard as a symbol of his

villainy. Its subsequent removal signifies not just the alien's redemption, but also reflects his flourishing romantic intentions towards local female newsreader Roxanne. By comparison, Dr. Cockroach in *Monsters vs. Aliens* is an inventor obsessed with the properties (and even taste) of garbage, improbably turning "a pizza box, two cans of hairspray...and a paperclip" into a fully-working super computer. *Robots* also concentrates its values, and the incentives of its protagonist Rodney Copperbottom, on regaining and reclaiming the tarnished and corroded. The film stresses the preservation of outmoded robots (known as "Rusties"), and the salvaging of second generation parts over new expensive upgrades. Though *Robots* subscribes throughout to Rodney's philosophy that "you can shine no matter what you're made of," not every computer-animated film sings from the same ideological hymn-sheet. But the spotlight repeatedly cast onto common rubbish and refuse, reveals how junk so often functions as the trigger for inspired and innovative interpretation.

Where there is junk in computer-animated films there is often a visible system of appropriation: one in which inert objects become activated and liberated not from form or substance, but from function. Shane Acker has spoken of the classification of discarded matter within the narrative of his critically-acclaimed computer-animated film *9*. Describing the industrious actions of the nine homunculi ragdolls who populate the film's barren wasteland, Acker suggests:

> These new "ragdoll" humanoids still have many positive human characteristics and they're engaged with trying to use a new and positive creative force. They are using old, now redundant objects, as new tools, but infuse them with an incredible creative spirit.[126]

The "positive" (that is, human) manipulation of waste products, junk and discarded objects by the dolls in *9* who source their basic necessities from outside (often past) civilisations, are all creative acts of animation. The reordering of the rejected in a Luxo world is determined by its connections to an agent, because devoid of anthropomorphic sentience or personification, this junk cannot free itself from its lack of worth on its

own. While Ralph Bakshi's irreverent cel-animation *Hey Good Lookin'* (1982) opens with a heated verbal exchange between a pile of waste and an anthropomorphic trash can ("you know all this rubble, just passing the time bullshittin'?"), the abandoned Luxo world in *9* remains inarticulate and requires external 'animation.' *Wall-E* is another computer-animated film heavily invested in such systems of functional modification, offering a rich case study for an understanding of how rubbish can be infused with a creative spirit. Wall-E himself is, after all, the last of the Waste Allocation Load Lifter—Earth Class robots, whose routine involves sifting through the cultural detritus left behind on an evacuated Planet Earth. Compacting the unwanted rubbish into neat cuboids as part of his extensive clean-up operation, Wall-E methodically stacks the junk into soaring structures. In an *Antz*-like feat of misdirection, each composition resembles the neighbouring skyscrapers glimpsed through the suffocating fog. Wall-E is therefore the sole architect of his own personalised high-rise junk yard, a junk artist whose 'trashy' recreations give definition and life to a dead city that has long-since atrophied. But it is not only their compression into stackable cuboids that reforms and reshapes these broken remnants of mass culture. A post-mortem into the decaying city within its Luxo world reveals how it is Wall-E's creative interaction with the discarded artefacts that ushers each object towards a new and innovative functionality.

Values radiate from everyday objects. These values are formed through their perception by the beholder. Keith Moxey has argued that "the ways in which objects call to us, their animation, their apparent autonomy, stem only from their association with us." He concludes that these objects and artefacts "may haunt us but their autonomy is relative. They cannot exist without the power with which we invest them."[127] The imaginative and resourceful attitude of Wall-E towards his own abandoned surroundings is certainly in this vein. Picking and poking his way through the rubbish heaps, he revives identity among outmoded material and cultural objects:

finding animacy among the inanimate. A surrogate animator, his proclivity for collecting suggests subject and object are not entirely separable. *Wall-E* picks out its protagonist from the other (albeit non-functioning) versions of similar design, which now lay defunct by the roadside. Similarly, with humans having departed aboard the AXIOM spaceship, the last surviving model of his kind must systematically reattribute worth to the homogenised rubbish. Any object recovered from compaction is primed to be recycled and repurposed, designated a spot in Wall-E's organised archive of antiques relating to a long-lost civilisation. Wall-E's personalised "cabinet of curiosities," as Colleen Montgomery phrases it, and his philosophy that *everything matters* (and that everything, given the opportunity, *can matter*), crystallises the values the genre attributes to rubbish. Any object has the opportunity to graduate from matter to matter*ing*. There are no patterns to his selection process during his repetitive labour, only a curious electronic noise emitted by the robot confirms the object's intrigue. Such excessive behaviour towards possession enables the first switch in the objects to take place; ownership prompting an immediate transformation from a status of *nothing*ness to *thing*ness. *Toy Story 3* is firmly in the shadow of *Wall-E* as it likewise makes a distinction between toys (worth) and junk (worth*less*) founded upon issues of possession. Whereas rubbish is devoid of ownership ready to be reclaimed, the identity *of the toys*, and indeed their status *as toys*, is predicated upon a sense of belonging. To be owned is ultimately to be salvaged from abandonment. With shades of the animated musical *The Brave Little Toaster* (1987), which also culminates at a junkyard, Woody, Buzz and the remainder of Andy's toys must continually fight against their phobia of being downgraded to the rank of trash, and it is this perpetual fear that engulfs them (Fig. 2.10). Despite the villainous Lots-O'-Huggin' Bear's proclamation to his fellow toys that "we're all just trash waiting to be thrown away," *Toy Story 3* permits its toys salvation from such a *future* as junk by giving them a *present* as toys.

The valuations of worth made in *Wall-E*, and throughout the genre's numerous salvage operations, can be further reconciled with a particular stage of child behavioural development known in childhood studies as "pretend play." Compared with alternate modes of early child play, including "exploration, word play, social play, or rough-and-tumble play," the narrower category of "pretend play" involves a child's relations with objects, and in particular a central act of *object substitution*. Drawing on the social development theory of Lev Vygotsky, Elena Bugrimenko and Elena Smirnova have identified how children before the age of three are entirely dependent on, and adhere to, the "situation" because of the affective motor-reaction that governs their perception.[128] After this age, higher mental functions (including a symbolic function) emerge, manifesting in the actions of a child that go "beyond the scope of the situation."[129] At this age, children are able to imaginatively ascribe names and functions to objects "which are totally uncharacteristic of them."[130] Episodes of substitution develop that entail a consciously false representation on the part of the child of any object's customary purpose, resulting in an early activity of inventiveness in which objects can "stand in" for another. As Jane Hewes puts it, "a piece of wood begins to be a doll and a stick becomes a horse," whilst other examples include "a chair substituting a car, a cube substituting an apple."[131] The playful activities of Wall-E as he coerces mounds of discarded waste into new functional identities, appeals to the creative spirit with which children infuse their objects. These transformations are investigational acts predicated upon substitutional behaviour: the repurposing of junk and waste to "stand in" for another more functional entity. Computer-animated films are littered with substitutional gestures of this kind, staking their interest in the kinds of creative substitutions that have been credited with nourishing and strengthening a child's cognitive development. An oven glove acts as a rodent's bed in *Ratatouille*, while a matchbox becomes a rucksack *The Ugly Duckling and Me!* In *A Bug's Life*, would-be inventor Flik combines "just an

ordinary blade of grass and bead of dew" to manufacture a crude, but fully-functioning, telescope (but the device is immediately ridiculed). Indeed, it is not uncommon for the industrious behaviour of the genre to be reflected in the presence of aspiring inventors. Jimmy Neutron (*Jimmy Neutron: Boy Genius*), Rodney Copperbottom (*Robots*), Lewis Robinson (*Meet the Robinsons*), Flint Lockwood (*Cloudy with A Chance of Meatballs*), Dr. Cockroach (*Monsters vs. Aliens*), Gru (*Despicable Me*) and, of course, Wall-E, all plunder their respective Luxo worlds and scavenge for its hidden treasures.

Highly inventive, though not an inventor, Carl Fredericksen's transformation of his detached house into an airship with the aid of 50,000 helium balloons in *Up*, stands as one of the genre's most elaborate object substitutions. The house-airship central to its plot situates the film within animation's tradition of "house-come-alive" narratives. Such a tradition is represented by, but is certainly not limited to, Émile Cohl's *The House Becomes a Chinese* (1911), the Disney short *The Little House* (1952), the Japanese science-fiction anime series *Time Classroom: Adventures of The Flying House* (1982-1983), *Laputa: Castle in the Sky* (1986), *Howl's Moving Castle* (2004), the stop-motion *Coraline*, and the computer-animated film *Monster House*. What distinguishes the house in *Up* from these animated abodes is the principles of the form or morphē underlying the transformation of the substitute object. Child psychologists have argued that prominent intellectual object transformation occurs because "the external world [from a child's perspective] does not seem formed by permanent objects."[132] Certain restrictions mitigate children's abilities to perform object substitutions, and an object's physical properties "to a certain degree limit the range of possible actions with it."[133] This erects boundaries around what Hungarian psychologist Mihaly Csikszentmihalyi defines as an object's "activity potential," or what children can "do with them."[134] A multitude of animated films have creatively explored the "activity potential' when representing flying or malevolent animated house. But the logic of the home's playful

transformation into an airship in *Up* is grounded in circumstances that are plausible within its fictional Luxo world. In this way, *Up* departs from what is perhaps its closest animated relative, *The Flying House* (1921), the last film made by prolific U.S. animator Winsor McCay, and based upon McCay's own newspaper comic strip series *Dream of the Rarebit Fiend* (1904-25). While the two films share strong thematic content, including the enforced desire to escape rapid urbanisation and the threat of eviction, *The Flying House* takes flight through a series of sophisticated pistons, pumps and propellers. In *Up*, however, shower curtains and blankets act as makeshift rudders, while the helium canisters littered across Carol's lawn (from his vocation as a balloon seller) indicate the labour involved in its functional renovation. Respect is always paid to the home's architectural integrity (that is, its 'homeness'), even when it has the characteristics of another identity impressed upon it during the pretend acts. By preserving the conditions of the morphē, the flying house zeppelin in *Up* (as a plaything) and its "spirit of adventure" (as it is christened) is always informed by the twin logic and semantic duality ingrained within a substitute object. It remains an airship *and* a house, both at once.

Like the foundations from which it is unexpectedly torn, *Up* consciously ruptures animation's connection to object transformation. It becomes lived not through remarkable molecular mutation or exaggerated renovation, but through Carl's playful and affectionate interactions with it. Such activities of object substitution and the preservation of the morphē take on greater meaning in *Wall-E*. During one sequence of "pretend play" ten minutes into the film, the curious android encounters a discarded woman's bra among the abandoned cultural detritus (Fig. 2.11). Drawn to the allure of its curved shape, he tentatively positions the lingerie over his binocular eyes believing it to be spectacles. Later, Wall-E imitates a song-and-dance routine copied from his VHS of *Hello Dolly!*, replicating the movements onscreen by gesturing with a dirty and

disused hubcap. Tilting his treasure to mimic a top hat, Wall-E performs not just the musical number for love-interest EVE, but simultaneously forces a switch in functionality. Norman Klein identified in the transformations of early cel-animation, and particularly the work of the Fleischer brothers, an impression of an image's "atomic structure" seemingly coming "unglued."[135] But *Wall-E* stabilises its transformations by avoiding the transmutation of one object into another. Like Chaplin, a figure to which Wall-E has so often been likened, the robot sanctions multiple values and roles to engulf even the most unspectacular and broken of objects through the dextrous skill with which he handles them.[136]

Just as Insectopia permits the ants to gleefully express what Wisnowsky might call their "antness," the vast playground of scattered junk allows Wall-E's own "robotness" (his own morphē) to sporadically manifest. Indeed, for all his numerous capabilities as a fully-functioning android, and there are many, Wall-E's ever-expanding repository of salvaged treasures both amuses and confuses him, and his inability to operate everyday objects carves out a space for their range of possible functions to be performed. By comparison, the sleek and sophisticated EVE is a character through which the film channels an object's 'correct' use, showcased by her skilled handling of the Zippo cigarette lighter, light bulb and Rubik's cube. A new inhabitant to the film's desolate wasteland, EVE comes from a world "alive with consumption and dead with thought," and it is this fact which restrains any object substitutions.[137] She is an extension of the AXIOM's dutiful autopilot that governs the craft's trajectory. EVE's "robotness" surfaces only when she is entirely autonomous from both Wall-E and from his objects: for example, when piloted by the regulated trails onboard the AXIOM, or in her directive to automatically scour Earth's rubbish for signs of life. But the discarded waste bequeathed to Wall-E once all humanity is evacuated from Earth has developed his eccentric personality and transformed his regulated, automatic existence. But despite

his inquisitive approach and attempts to coach EVE in his own style of "pretend play," the only object that Wall-E is able to correctly operate is himself. He remains alert to his faults, aware of when he requires upgrade, repair or maintenance. His playful actions with the lingerie and hubcap invite spectators to revel in the android's *behavioural* (rather than *mechanical*) deficiencies. As Wall-E's inquisitive activity re-values the cultural meanings of artefacts long since buried, spectators become progressively acquainted with the robot's own morphē and status *as an object*. The android's own "thingness" is therefore illuminated by his engagement and "pretend play" with the "thingness" of others, and so as the inanimate objects lay dormant on Earth ready to be reclaimed, their discovery not only brings each one to life (and *into* a new life), but *reanimates* the animator himself.

To quote acerbic food critic Anton Ego in *Ratatouille*, the meaningfulness instilled into the "average piece of junk" can be located as one of the genre's most prolific pleasures. When Wall-E ignores the monetary value of a discarded diamond ring and instead becomes fascinated with the hinged mechanism of the trinket's box, his actions are appropriate to a genre in which the conception of junk is entirely relative. Through its many acts of "pretend play," computer-animated films enliven objects residing in their Luxo worlds with multiple values and operations, unfastening a range of junk, trash, waste and detritus from what poet Anne Carson calls the "latches of being."[138] By introducing a foreign constituent to pilot a single object's identity during their substitutional acts of pretension, Luxo worlds manifest as spaces that are highly *interchangeable*. But there are multiple limitations in operation, and the transformative vibrancy of these fictional realms resides at the juncture where creativity meets constraint. This is part of the computer-animated film's "generic verisimilitude," but also relates to the parameters of expectation within, and stability of, a Luxo world. But by inviting spectators to formulate a new response to a recognisable object, and to

become acquainted with the widening of its functional possibility, computer-animated films revel in choreographing the simplest of objects a more creatively innovative routine. It is this compelling and vibrant compatibility between restrained bravura, a resourceful energy and heightened levels of industriousness that makes a Luxo world one of the most exciting and dynamic screen spaces of contemporary cinema.

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[1] Dudley Andrew, *Concepts in Film Theory* (New York: Oxford University Press, 1984), 38.
[2] Paul Wells, *Animation: Genre and Authorship* (London: Wallflower Press, 2002), 26.
[3] V.F. Perkins, "Where is the world? The horizon of events in movie fiction," in *Style and Meaning: studies in the detailed analysis of film*, eds. John Gibbs and Douglas Pye (Manchester: Manchester University Press, 2005), 34.
[4] Alexander Sesonske quoted in Stanley Cavell, *The World Viewed: Reflections on the Ontology of Film Enlarged Edition* (Cambridge, Massachusetts: Harvard University Press, 1979), 167-8.
[5] Kendall Walton, *Mimesis as Make-Believe: On the Foundations of the Representational Arts* (Cambridge, MA: Harvard, 1990). Walton argues that "Fictional worlds are sometimes impossible and usually incomplete, whereas possible worlds (as normally construed) are necessarily both possible and complete" (64).
[6] Sesonske quoted in Cavell, *The World Viewed*, 167-8.
[7] Cavell, *The World Viewed*, 24. See also Deborah Thomas, *Reading Hollywood: Spaces and Meanings in American Film* (London: Wallflower Press, 2001).
[8] V.F. Perkins, *Film as Film: Understanding and Judging Movies* (New York: De Capo Press, 1993), 61.
[9] Thomas Lamarre, "New Media Worlds," in *Animated Worlds*, ed. Suzanne Buchan (Eastleigh: John Libbey Publishing, 2006), 131.
[10] Paul Wells, *Understanding Animation* (London: Routledge, 1998), 25-26.
[11] See Paul Ward, "Independent Animation, Rotoshop and Communities of Practice: As Seen Through *A Scanner Darkly*," (59-72) and Caroline Ruddell, ''Don't Box Me In': Blurred Lines in *Waking Life* and *A Scanner Darkly*," (7-23) both collected in *animation an interdisciplinary journal* 7, no. 1 (March 2012).
[12] The post-digital perfection of the virtual backlot has diminished what Laura Mulvey labels the "clumsy visibility" of Classical Hollywood rear projection. Laura Mulvey, "A Clumsy Sublime," *Film Quarterly* 60, no. 3 (Spring 2007): 3.
[13] Jay Boulter, "Transference and Transparency: Digital Technology and the Remediation of Cinema," *Intermédialités* 6 (Autumn 2005): 24.
[14] Burr Snider, "The Toy Story Story: How Lasseter cam to make the first 100-percent computer-generated theatrical motion picture,' *WIRED* 3, no. 12 (December 1995), accessed September 25, 2013, http://www.wired.com/wired/archive/3.12/toy.story_pr.html.
[15] Sianne Ngai, *Ugly Feelings* (Massachusetts: Harvard University Press, 2005), 89-125.
[16] Recent work published around the topic include: Aylish Wood, "Re-animating Space," *animation: an interdisciplinary journal* 1, no. 2 (2006): 133-152; J.P. Telotte, *Animating Space: From Mickey to Wall-E* (Kentucky: University Press of Kentucky, 2010); Suzanne Buchan, *The Quay Brothers: Into a Metaphysical Playroom* (Minneapolis: University of Minnesota Press, 2011); Donald Crafton, *Shadow of a Mouse: Performance, Belief, and World-Making in Animation* (Berkeley: University of California Press, 2013).
[17] Suzanne Buchan, "The Animated Spectator: Watching the Quay Brothers' 'Worlds'," in *Animated Worlds*, 17-40.
[18] Aylish Wood, *Digital Encounters* (New York: Routledge, 2007), 25.
[19] Ibid.
[20] Vivian Sobchack, "Animation and Automation, or, the Incredible Effortfulness of Being," *Screen* 50, no. 4 (Winter 2009): 375-391. In a conversation with U.S. animator Chris Landreth, Judith Kriger asks "When you look at most kinds of animation, you can see the imperfection in it. To me, that's part of the 'charm' of working in and watching this medium–you can see the human behind the camera. Do you think there's a way to bring that sort of charm into CG?" Judith Kriger, *Animated Realism: A Behind-the-Scenes Look at the Animated Documentary Genre* (Oxford: Focal Press, 2012).

[21] Jennifer M. Barker, *The Tactile Eye: Touch and the Cinematic Experience* (California: University of California Press, 2009), 137.
[22] Sobchack, "Animation and Automation," 390.
[23] Kristin Thompson, "Flushed Away for Real?" *Observations on film art* (November 16, 2006), accessed September 25, 2013, http://www.davidbordwell.net/blog/2006/11/16/flushed-away-for-real/.
[24] Perkins, "Where is the world?" 19.
[25] Oren Jacob and Andrew Stanton quoted in the "Making Nemo" special feature on *Finding Nemo 2-Disc Collector's Edition* (DVD, Disney/Pixar, USA, 2004).
[26] Stanton, "Making Nemo."
[27] Martin Lister, for example, has defined Pixar's aesthetic style as a visual combination of "spectacular realism," which involves "sophisticated rendering of depth, lighting, texture, and so on" with more "cartoon-derived codes" pertaining to character design, action, comedy and movement. Martin Lister, Jon Dovey, Seth Giddings, Iain Grant and Kieran Kelly, *New Media: A Critical Introduction* (London: Routledge, 2003), 158.
[28] Mark Cotta Vaz, "*A Bug's Life*: An Entomological Epic," *Cinefex* 76 (January 1999): 41-50, 133-140.
[29] Telotte, *Animating Space*, 15.
[30] Christine Cornea, *Science Fiction Cinema: Between Fantasy and Reality* (Edinburgh: Edinburgh University Press, 2007), 266.
[31] Crafton, *Shadow of a Mouse*, 16.
[32] Katherine Sarafian, 'Flashing Digital Animations: Pixar's Digital Aesthetic,' in *New Media: Theories and Practices of Digitextuality*, eds. Anna Everett and John T. Caldwell (New York and London: Routledge, 2003), 216.
[33] James Walters, *Alternative Worlds in Hollywood Cinema: Resonance Between Realms* (Bristol: Intellect, 2008).
[34] Pete Docter quoted in "Behind the scenes of Disney/Pixar's *Up*," [n.d], video clip, accessed September 25, 2013, http://www.nobuna.com/lessons/Film/behind-the-scenes-of-disney-pixar-s-up.
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[36] Arnold Berleant, *Art and Engagement* (Philadelphia: Temple University, 1991), 183.
[37] Jameson, "On Magical Realism in Film," 301.
[38] Judith Saltman, "The Ordinary and the Fabulous: Canadian Fantasy Literature for Children," in *Worlds of Wonder: Readings in Canadian Science Fiction and Fantasy Literature*, eds. Jean-François Leroux and Camille R. La Bossière (Ontario: University of Ottowa, 2004), 192.
[39] See Jane Feuer, "The Self-reflective Musical and the Myth of Entertainment," in *Genre: The Musical: A Reader*, ed. Rick Altman (London: Routledge, 1981), 159-174. Also see Michael Dunne, *American Film Musical Themes and Forms* (North Carolina: McFarland & Company, Inc. Publishers, 2004), 108.
[40] Maggie Ann Bowers, *Magic(al) Realism* (New York: Routledge, 2004), 28.
[41] Berleant, *Art and Engagement*, 183.
[42] Crafton, *Shadow of a Mouse*, 146.
[43] Frederick Betz, *Executive Strategy: Strategic Management and Information Technology* (New York: John Wiley & Sons, Inc., 2001), 210.
[44] Stuart Mealing, *The Art and Science of Computer Animation* (Exeter: Intellect Books, 1998), 40.
[45] Benoît Mandelbrot, *The Fractal Geometry of Nature* (San Francisco: W.H. Freeman & Company, 1983).
[46] Barbara Robertson, "Flushed with Success," *Computer Graphics World* 29, no. 10 (October 2006), accessed September 25, 2013, http://www.cgw.com/Publications/CGW/2006/Volume-29-Issue-10-Oct-2006-/Flushed-with-Success.aspx. See also Bruce Tartaglia, Rob Wilson, Olcun Tan, Scott Peterson, Jonathan Gibbs, "A Procedural Modeling Workflow for "Over the Hedge" Foliage," *Sketches Article* 49 (SIGGRAPH 2006), accessed September 25, 2013, http://staffwww.itn.liu.se/~andyn/courses/tncg08/sketches06/sketches/0408-tartaglia.pdf.
[47] Stephen Prince, *Digital Visual Effects in Cinema: The Seduction of Reality* (New Jersey, Rutgers University Press, 2012), 69.
[48] Friedrich von Borries, Steffen P. Walz, Matthias Bottger, *Space Time Play: Computer Games, Architecture and Urbanism*: *The Next Level* (Berlin: Berkenhäuser Verlag, 2007), 128-9.
[49] Deborah Tudor, "The Eye of the Frog: Questions of Space in Films Using Digital Processes," *Cinema Journal* 48, no. 1 (Fall 2008): 99-100.
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[51] Tanya Krzywinska, "Blood Scythes, Festivals, Quests, and Backstories: World Creation and Rhetorics of Myth in World of Warcraft," *Games and Culture* 1, no. 4 (2006): 386.

[52] Perkins, "Where is the World?" 26.
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[56] Ann Marion quoted in Stewart Brand, *The Media Lab: Inventing the Future at MIT* (New York: Penguin Books, 1989), 95.
[57] Isaac Kerlow, *The Art of 3D: Computer Animation and Effects Third Edition* (New Jersey: John Wiley & Sons, 2004), 362.
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[59] The release of *Toy Story* in 1995 is historically continuous with the proliferation of three-dimensional "open world" platforms released during the 1990s, including *Doom* (1993), *Quarantine* (1994), *Descent* (1995), *Stonekeep* (1995), *Super Mario 64* (1996), *GoldenEye* (1997) and *Grand Theft Auto* (1997).
[60] Scott Lukas, *The Immersive Worlds Handbook: Designing Theme Parks and Consumer Spaces* (Burlington, MA: Focal Press, 2013), 57.
[61] Cavell, *The World Viewed*, 23-24.
[62] Ibid.
[63] Jean Mitry quoted in Andrew, *Concepts in Film Theory*, 76.
[64] Paul Virilio's theories on the lost dimension form a key element of Telotte's *Animating Space*. See also Vivian Sobchack, "The Line and the Animorph or 'Travel Is More than Just A to B'," *animation: an interdisciplinary journal* 3, no. 3 (November 2008): 251–65; and Birgitta Hosea, "Drawing Animation," *animation: an interdisciplinary journal* 5, no. 3 (November 2010): 353-67.
[65] Paul Virilio, *The Lost Dimension* (New York: Semiotext(e), 1991), 18.
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[68] Stephen Heath, *Questions of Cinema* (Bloomington: Indiana University Press, 1981), 178.
[69] Wells, *Understanding Animation*, 15.
[70] Patrick Power, "Character Animation and the Embodied Mind–Brain," *animation: an interdisciplinary journal* 3, no. 1 (March 2008), 37.
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[75] Barbara Johnson,"'Apostrophe, Animation, and Abortion,' *Diacritics* 16, no. 1 (Spring 1986): 32.
[76] Ibid., 30.
[77] Paul Wells, *The Animated Bestiary* (London: Rutgers University Press, 2009), 3-4.
[78] Cliff Hamilton, "Anthropomorphism: You should know what it is," *Rangelands* 5, no. 4 (August 1983): 166.
[79] Béla Balázs, *Theory of the Film*, trans. Edith Bone (New York: Dover Publications, 1970), 92.
[80] Ibid., 91-92.
[81] Sergei Eisenstein, *Eisenstein on Disney*, trans. Jay Leyda (London: Methuen, 1986), 43.
[82] Ibid., 33.
[83] Ibid., 10.
[84] Power, "Character Animation and the Embodied Mind–Brain," 35.
[85] Ibid., 26.
[86] Eisenstein, *Eisenstein on Disney*, 21.
[87] Power, "Character Animation and the Embodied Mind–Brain," 23.
[88] Wells, *The Animated Bestiary*, 22.
[89] Simon Baker, *Picturing the Beast: Animals, Identity, and Representation* (Illinois: University of Illinois Press, 2001), 108.
[90] Eisenstein, *Eisenstein on Disney*, 48.
[91] For an outline of the Disney happy ending see Janet Wasko, *Understanding Disney: The Manufacture of Fantasy* (Cambridge: Polity, 2001), 132.

[92] The Disney studio has pursued *therianthropic* characters in the human transformation narratives of *The Emperor's New Groove* and *The Princess and the Frog*. By comparison, Disney's decision to jettison its practice of transforming non-humans back into humans for *Brother Bear* (2003) produced, as Wells notes, a "genuinely surprising ending" given that protagonist Kenai wishes to stay in his enforced bear form and not his true humanity. Wells, *The Animated Bestiary*, 47.
[93] Andrew Osmond, "Ratatouille" review, *Sight and Sound* 17, no. 10 (October 2007): 66.
[94] Alex the Lion (*Madagascar*), Boog (*Open Season*), Comet (*Space Chimps*), Nat (*Fly Me to the Moon*) and Bolt the dog (*Bolt*) are other computer-animated film characters who have been heard in their true morphē or animal parlance.
[95] Gérard Genette, *Narrative Discourse Revisited*, trans. Jane E. Lewin (New York: Cornell University, 1988), 72.
[96] Genette quoted in *New Vocabularies in Film Semiotics: Structuralism, Post-Structuralism and Beyond*, eds. Robert Stam, Robert Burgoyne and Sandy Flitterman-Lewis (London: Routledge, 2005), 82.
[97] Mieke Bal, *Narratology: Introduction to the Theory of Narrative* (trans. Christine van Boheemen, Toronto: University of Toronto Press, 1985), 143.
[98] Seymour Chatman, *Coming to Terms: The Rhetoric of Narrative in Fiction and Film* (Ithaca: Cornell University Press, 1990), 146.
[99] Mike Jones, "Vanishing Point: Spatial Composition and the Virtual Camera," *animation: an interdisciplinary journal* 2, no. 3 (November 2007), 236.
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[101] Giuliana Bruno, *Atlas of Emotion: Journeys in Art, Architecture and Film* (New York: Verso, 2002), 56.
[102] Laura U. Marks, *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses* (Durham: Duke University Press, 2000), 161.
[103] Gilles Deleuze, *Cinema 1*: *The Movement-Image* trans. Hugh Tomlinson and Barbara Habberjam (London: The Athlone Press, 1986), 81.
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[105] Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (London: The Athlone Press, 1987), 265; Lasseter, "Principles of Traditional Animation," 43.
[106] Edward Branigan, *Point of View in the Cinema: A Theory of Narration and Subjectivity in Classical Film* (New York: Mouton, 1934), 1.
[107] Deleuze and Guattari, *A Thousand Plateaus*, 265.
[108] Deleuze, *Cinema 1*, 83.
[109] Deleuze, *Cinema 2*, 254.
[110] Tobey Crockett, "The '*Camera* as Camera:' How CGI Changes The World As We Know It," in *Cinephilia in the Age of Digital Reproduction: Film, Pleasure and Digital Culture, Vol.1*, eds. Scott Balcerzak and Jason Sperb (London: Wallflower Press, 2009), 119.
[111] Walter Benjamin, *Selected Writings: 1938-1940 Volume 1*, ed. by Marcus Bullock and Michael Jennings (Cambridge: Massachusetts, Belknap, 1996), 108.
[112] Dan North, *Performing Illusions: Cinema, Special Effects and the Virtual Actor* (London: Wallflower Press, 2008), 151.
[113] Wells, *Understanding Animation*, 69.
[114] Gerald Mast, *The Comic Mind: Comedy and the Movies* (New York: Random House, 1976), 69.
[115] Paul Wells, "The Chaplin Effect: Ghosts in the Machine and Animated Gags," in *Funny Pictures: Animation and Comedy in Studio-Era Hollywood*, eds. Daniel Goldmark and Charlie Keil (Berkeley: University of California Press, 2011), 19.
[116] Michael Barrier, *Hollywood Cartoons: American Animation in its Golden Age* (Oxford: Oxford University Press, 1999), 3.
[117] Larry Langman, *Encyclopaedia of American Film Comedy* (London: Garland Publishing, 1987).
[118] The term "multimorphous" comes from Norman Klein's description of early animation, in which "any object might get its backside smacked, its breasts fondled, sprout naked feet, drop its pants, grow feminine hips." Norman Klein, *Seven Minutes: The Life and Death of the American Cartoon* (London: Verso, 1993), 36.
[119] Sean Griffin, *Tinker Belles and Evil Queens: The Walt Disney Company from the Inside Out* (New York: New York University Press, 2000), 58.
[120] Vivian Sobchack, "Introduction," in *Meta Morphing: Visual Transformation and the Culture of Quick-Change*, ed. Vivian Sobchack (Minneapolis: University of Minnesota Press, 2000), xvi.
[121] Robert Wisnovsky, "Avicenna and the Avicennian Tradition," in *The Cambridge Companion to Arabic Philosophy*, eds. Peter Adamson, Richard C. Taylor (New York: Cambridge University Press), 108.

[122] Susan Stewart, *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection* Eighth edition (Duke University Press, 2003), 54.
[123] Lawrence Alloway, "Junk Culture as Tradition," in *Imagining the Present: Context, Content, and the Role of the Critic*, ed. Richard Kalina (London and New York, 2006), 79.
[124] David Denby, "Ants in Their Pants: *Antz* Movie Review," *New York Magazine* (October 12, 1998), accessed September 25, 2013, http://nymag.com/nymetro/movies/reviews/2848/.
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[126] Shane Acker quoted in Paul Wells, "Shane Acker: big worlds, little stories – counting up to 9," *Animation Practice, Process & Production* 1, no. 1 (2011): 100.
[127] Keith Moxey, "Visual Studies and the Iconic Turn," *Journal of Visual Culture* 7, no. 2 (August 2008): 142.
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[131] Jane Hewes, "The value of play in early learning: towards a pedagogy," in *Several Perspectives on Children's Play: Scientific Reflections for Practitioners*, eds. Tom Jambor and Jan Van Gils (Antwerp: Garant, 2007), 111-3.
[132] Jean Piaget, *The Construction of Reality in the Child* (London: Routledge, 2002), 351.
[133] Bugrimenko and Smirnova, "Paradoxes," 289.
[134] Mihaly Csikszentmihalyi, "Design and Order in Everyday Life," *Design Issues* 8, no. 1 (Fall 1991): 27-29.
[135] Klein, *Seven Minutes*, 64.
[136] For a discussion of *Wall-E*'s "Chaplin-esque" qualities see, amongst others, Ian Graham Ronald Shaw, "Wall-E's world: animating Badiou's philosophy," *Cultural Geographies* 17, no. 3 (2010): 391-405 and Robin L. Murray and Joseph K. Heumann, *That's All Folks?: Ecocritical Readings of American Animated Features* (Lincoln, Nebraska: University of Nebraska Press, 2011), 201-228.
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[138] Anne Carson, *Autobiography of Red* (New York: Vintage Contemporaries, 1998), 4.

Chapter Three: Performing with Puppets

Acting and performance in the computer-animated film

> Computer-animators have cleared the major hurdles in the way of creating wholly credible human characters [...]. This bigscreen adaptation of the long-popular interactive computer game is visually impressive if not dramatically cool, and is marked by "acting" that is no worse than that found in the majority of sci-fi films.[1]
> ----- Todd McCarthy, "Final Fantasy: The Spirits Within," *Variety*, 8 July 2001

> How can inanimate drawings or objects act, or perform at all?[2]
> ----- Donald Crafton, *Shadow of a Mouse*

> Gru: What are these?
> Agnes: Puppets! You use them when you tell the story.
> ----- *Despicable Me*

Computer-animated Luxo worlds are worlds of irrepressible energy and vigour. Optically compelling, with arresting activity staged in depth so that it recedes far into the virtual horizon, elaborate compositions stress a Luxo world's monumentality and multitude, and its extremes of life and luminosity. The net effect of virtual environments exhibited in this way is certainly one of spectacle. Such worlds solicit a mode of spectatorial address that is marked by the repeated disclosure of their own heightened intricacy, agency and *animatedness*. But visual spectacle within a Luxo world is no less a function of the unique kinds of performances made available in, and sanctioned by, these computer-animated screen spaces. Paul McDonald has recently argued that "all film acting is spectacle," and while this certainly rings true for the accomplishments of many performers across cinema history, it is the computer-animated film genre that routinely makes a spectacle (out) of animated acting.[3] Recent writing that has staked a claim for animation as a "performance art" has brought into relief the intrinsic place of performance within the creative capacities of animation to excite and entertain, and for animated films to be viewed as a "cultural enterprise based on performativity."[4] Computer-animated films have proven no less a magnet for discussions of acting in

animation, and Donald Crafton has recently endorsed Pixar as a studio producing highly "performative" films.[5] But the identification of performance as one of the principals of a Luxo world has not just been the reserve of film scholarship. Rather, its centrality has been identified by practitioners working in the field of computer-animated films. The late Pixar Supervising Animator Glenn McQueen suggested in one interview that "It's interesting that you are even asking about acting and performance because as far as I'm concerned that is pretty much all there is."[6] Jan Pinkava, the writer and director of the studio's Academy Award-winning short film *Geri's Game* (1997), expresses a similar viewpoint, claiming that "If you're an animator, you're interested in performance and acting and story."[7]

The separate, and yet entirely inseparable, relationship between the computer-animated film and acting, and the clear valuation of performance as an indispensible element of the genre, hinges upon the fundamental role played by the animator in the construction of performance. Whether it is the label "animator/actor" settled upon by Paul Wells, or Stephen Prince's terming of the "animator-as-actor," a particularly dominant line of critical inquiry has tended to identify animators "as actors in their own right," with performance resting upon their discipline, expertise and application of their own acting credentials.[8] The animator's place as the locus for performance has been sustained across the wealth of practitioner manuals and guidebooks, which coach animators in the successful creation of persuasive, autonomous and self-governing characters with alert personalities.[9] Acting also forms a necessary component of the curriculum at the Pixar University, a professional development and education programme established in 2003, and based 'in-house' at the company's Emeryville studio in California. Among the multitude of guest seminars, event lectures and workshops available each day, animators can also take acting lessons and courses in improvisation alongside other typical 'fine art' subjects like painting, drawing and

sculpture classes for four hours per working week.[10] It comes as little surprise, then, that during feature-film production the computer-animators at Pixar regularly act out elements of the script themselves, videotaping their physical movements and using the resultant footage as a creative reference point. Given the benefit of their training at the university (evoking the acting classes that began at Disney in 1936), this approach to expanding the animator's acting credentials further explains why many of Pixar's creative personnel have lent their vocal talents to the three-dimensional computer-animated characters they help develop.[11] This adds intrigue to the claim made by Brad Bird, the director of *The Incredibles* and *Ratatouille*, who argues that "What is typically lost in discussions about animation is the fact that when you watch an animated film, the performance you are seeing is the one that the animator is giving you."[12]

Any appreciation of 'acting' within the feature-length computer-animated film context is, however, complicated by the particular conditions governing the creation of a screen performance. Animated acting is an expansive, fluid construction born out of a unique combination of animated gestures and mimes, all choreographed to a dubbed vocal track. An *exploded* view of the genre's performance divulges the multiple artistic presences that mediate the spectacle of computer-animated film acting. Performance in the computer-animated film is co-authored, not belonging to the individual but a product of the collective. The "performance *of* animation" (Crafton's term for the unseen work undertaken by animators) is rarely singular, but a highly complex enterprise involving a plurality of creative personnel, including directors, animators and voice artists. As the prolonged production schedule of a computer-animated film unfolds, even the involvement of a character's original designer lessens. While they may migrate onto subsequent 'in-house' (or even external) projects, their characters are preserved digitally within a computer ready to be submitted to a range of artists operating within separately defined spheres of labour. Performance is a through-line

traceable from the initial pencil sketch artists through to the modellers who manufacture clay sculptures and resin castings known as maquettes, before the final stage: a 3D digital, wire-frame scale model. Each phase refines and develops that which precedes it, continually recombining and transforming the digital character's performance. Animators working on computer-animated films conventionally work on shots or sequences too, rather than individual characters. As Pixar animator Andrew Gorden explains, "When you jump into your scene, it's almost like going underwater because you're surrounded by the animation. You're in the world of the shot."[13] Given that animators are often required to fragment a text into Stanislavskian "units" reminiscent of the "Method" actor's approach, a multitude of actors and "Methods" (emotions, memories, sense, psychologies, motives) are co-existent within a single animated character.[14] The achievements of the animators and artists mean the conditions of production are not reflected in those of reception. The spectator never ceases to believe in the ontological consistency or unity of the performance, even as they are simultaneously made aware (often extra-textually through 'bonus' features attached to DVD releases) that each performance is the product of an accumulation of labour.[15] It is nonetheless increasingly challenging to discuss performance in the computer-animated film in the same terms as those advanced by the recent spate of writing on acting in the cinema, which has typically sought to reaffirm the elusive skills that reclaim the cinema for human performers. Indeed, if Andrew Klevan reminds us ("because we are prone to forget") that a "living human embodies a film character," then the conditions of computer-animated film acting complicates how such performances can be authored and attributed.[16]

A more expansive and inclusive concept of performance is required to accommodate a computer-animated film genre not wholly explainable in traditional terms of 'acting.' Computer-animated films, as Stephen Prince argues, offer "some of

the most affecting performances in modern cinema."[17] But they call for fresh ways of understanding the terms of these screen performances that acknowledge how its range of actors do not 'perform' in the same way. Incremental 'tweaks' replace 'takes' within the work of computer-animated film acting. Each gesture, posture and movement of the character is the result of careful composition and management. Computer-animated films are not, in Alex Clayton's terms, replete with the same kinds of "mindful" bodies inhabiting live-action cinema who are conscious of the recording apparatus, or the spectator's gaze.[18] It is certainly a prerequisite that computer-animated films involve a cast of entirely virtual characters rather than flesh-and-blood actors. But this shortage of human actors onscreen spotlights the unique spectrum of bodies that the genre is sated with, and those conditions under which such bodies are able to perform. This chapter begins by identifying the multiple points of contact and divergence between the computer-animated film and the centuries-long tradition of "performing objects." Implicated in Western discourses of puppet theatre and typically held distinct from cinema, performing objects have been defined by Frank Proschan as "material images of humans, animals, or spirits that are created, displayed, or manipulated in narrative or dramatic performance."[19] But John Bell has since expanded Proschan's original definition of performing objects to include artefacts such as "scroll paintings, peepshows, masks, and narrative sculptures," alongside the various "stuff, junk, puppets, masks, detritus, machines, bones that people use to tell stories or represent ideas."[20] These objects function as a dual site of significance and signification, inserted between the human performer and spectator who are simultaneously trained upon the object engaged in performance. Puppetry has been described as both the oldest and most developed mode of the performing object tradition. Puppet theatre is the dominant form in which agency is transferred to an inanimate, material object, coerced into a deliberate surrogate for otherwise human-centred routine.

Computer-animated films regularly express their allegiance to the performance of the inanimate object, requiring the spectator to consider "a world in which humans are not of central importance."[21] Numerous scholars have spotlighted the film actor's close relationship to 'props' that can assist in, or amplify, the emphasis or construction of a particular emotion.[22] But the computer-animated film provides another screen space founded upon a "creative dialectic between people and things," affording spectators the intrigue of inanimate objects entering into unprecedented narrative action at the hands of the animator.[23] By elevating the inanimate object from ancillary prop to a more active agent—so that spectators accept its presence before them as the centre of its investigations—computer-animated films disclose their interests in the performance potentials of a multitude of "actor-objects." This is a hyphenated term that Suzanne Buchan has employed to describe the "animated puppets" that perform in the unsettling and uncanny stop-motion films produced by Stephen and Timothy Quay.[24] The power and profundity of the "actor-object" has, however, been simultaneously developed across computer-animated films. The classic, historically-grounded performance styles that Crafton suggests contemporary computer-animated films have "resuscitated," coexist across the genre with performance styles drawn from the animators' casting of objects and non-humans not traditionally thought capable of 'acting.'[25] Animators certainly remain skilled in the creation of a nuanced acting style, but rarely cease to obscure the attraction of the film's narrative premise by exchanging naturalistic acting for a new anthropomorphic performance register. Such registers turn inexorably upon the ánthrōpos ("actor") and morphē ("object") held in delicate balance, drawing out the fluctuations between the two states as harboured through concerns of acting. Computer-animated films not only inscribe or 'perform' culturally sanctioned ways of defining male and female oppositions, but simultaneously manoeuvre beyond normative body categories.[26] Typical gender distinctions are rendered a matter of proportion, placed

within (and harnessed through) the intrinsic properties of the performing object itself, contributing to what Sianne Ngai calls the ""thinging" of the body in order to construct it [...] as impassioned."[27] The "thinging" of performance in the computer-animated film permits the genre to interrogate and (re)construct widely held bodily boundaries, and to introduce a compromise position that intermittently discloses the genre's new performance pleasures arising in the possibilities of inanimate objects 'acting.'

Beyond anthropomorphism, traditions of puppetry further support a critical investigation into computer-animated film performance because they ultimately preserve, rather than undermine, the genre as a particular type of animation. Puppetry thus exposes the unique qualities of animatedness that distinguish the computer-animated film. Computer-animated characters can be conceptualised within traditions of string puppetry and marionette performances in ways that traditional cel-animated characters and stop-motion figures cannot. But the tradition of performing objects represents "not only a focal but an ontological shift from humans," reminding us of the digital element of the genre's specificity.[28] Whether human or non-human characters, computer-animated film puppets are not physically corporeal. They are virtual marionettes that are originated, manipulated and manoeuvred entirely within a computer. The digitality of such puppets does not prevent the computer-animated film from being discussed in relation to performing objects. It is a defining feature that makes the genre home to a "new breed" of cyber puppets central to the "puppetry of tomorrow."[29] Computer-animated films thus expand a discussion of performing objects because the genre's range of characters or "media figures," as Steve Tillis argues, nominally "share with puppetry the crucial trait of presenting characters through a site of signification other than actual living beings."[30]

Puppetry also illuminates the creative bargain within computer-animated films that is struck between animators and those objects cast in primary roles, to become

individuated as people. The role of the occluded animator, and the terms in which their "work of acting" is expressed, is raised into prominence by the genre's intersections with puppet forms.[31] Performance within the context of animation, as Wells makes clear, remains an "intriguing concept," not least because it "properly represents the relationship between the animator and the figure, object or environment that he/she is animating."[32] Just as the animator has been credited as the actor within the cartoon context, A.C. Scott argues that the puppeteer is likewise "an actor, an artist who must portray a variety of human emotions arising from a dramatic situation."[33] Puppets lack interiority. They must be performed through external forces. This chapter argues that performance in the computer-animated film is qualified through a particular onscreen/offscreen separation between performer and performing object. Puppetry sharpens our awareness of this encounter, exposing how the moving force and apparent agency of computer-animated bodies are determined extrinsically. Within many critical discussions of *avatars*, *synthespians* and *vactors* (a neologism of virtual and actors), the digital is viewed as an accessory that hides performance.[34] It is regarded to be a prosthesis displacing the actor as the bearer of signs, and thus remodelling performance as a concern of post-production. As Sean Aita has recently claimed, "it is this extremity of mediation—the uncoupling of physical appearance from the requirements of the casting process—that has made it difficult for commentators and critics to determine the level of actor contribution."[35] Such concerns have certainly precluded any great understanding of the manifold ways in which the computer-animated film expands a discussion of contemporary screen performance. But the genre accepts the puppet as a replacement for the live, lively and living human body and celebrates, rather than disguises, its virtual sites of signification within the onstage/offstage partition fundamental to its stagecraft. By extending the vocabulary of the computer-animated film to appreciate its status as a form of modern puppet entertainment, this chapter

shows how the many characters populating a Luxo world are able to *act*, but that this is a function of them being *acted upon* in many compelling ways.

From the intricate shadow puppet prologue and epilogue of *Kung Fu Panda 2*—inspired by Chinese artwork and striking for their visual complexity and sophistication—to the "little puppet shows" within the musical number "I've Got a Dream" from *Tangled*, computer-animated films have regularly demonstrated a vested interest in the spectacle of puppet performances. Inspired by the art of puppetry, their narratives commonly grant spectators the intrigue of a puppet/puppeteer relationship. The "constant pulsation" that Henryk Jurkowski describes between the object in performance and the human performer, has been a gift for the expressive scope given to animators as they explore and elaborate upon qualities of puppet/puppeteer contact.[36] Best remembered in this spirit is *Ratatouille*, a film premised upon a playfully implausible conception of performer/puppeteer interaction. "I'm not your puppet, and you're not my puppet-controlling guy!" exclaims human chef Linguini, as he is involuntarily orchestrated into agency by rodent Remy, who pulls on the strands of his hair just as a marionette is moved through the manipulation of its strings (Fig. 3.1). Computer-animated films regularly establish certain discrepancies between the talented and the surrogate, animator and animated, and afford the spectator opportunity to linger over the creative "pulsation" of puppet and puppeteer in increasingly innovative ways. To protect the ant colony from a horde of villainous grasshoppers in *A Bug's Life*, the ants (under the orders of protagonist Flik) fashion a persuasive puppet replica that can be manoeuvred by the insects through a system of pulleys. In *How to Train Your Dragon*, protagonist Hiccup fashions a wooden and leather tail for a wounded Night Fury dragon (whom the young Viking christens Toothless). Orchestrated with his foot inside a harness, Hiccup's invention permits him to perform with the creature by using his crude contraption and, in a real-time act of puppetry, direct the dragon's movements.

Puppet spectacle plays no less a significant role in the recent prehistoric Pliocene narrative of *The Croods*. Makeshift puppet shows are twice enacted by humans to entice the affections of the film's army of fantastical creatures. Characters perform with rod-operated creations that loosely approximate the physical look and gesticulations of those prehistoric animals the puppets are designed to beguile and entice. Thrusting the "acting sticks" into the hands of primeval cavegirl Eep during one such show, caveman Guy quizzes his fellow Neanderthal over her acting credentials, asking her "How's your acting?" In *The Incredibles*, retired superhero Bob Parr (a.k.a. Mr. Incredible) transitions from a corporate puppet controlled by the Insuricare Company to puppet master when fighting the Omnidroids (an armada of humanlike mecha developed by the film's villain Syndrome to fight against the world's superheroes). Mr. Incredible is informed that the Omnidroid's artificial intelligence enables it to mimic his movements in addition to its pre-programmed directive. As Syndrome's accomplice Mirage reveals, the Omnidroid is "a learning robot. Every moment you spend fighting it only increases its knowledge of how to beat you." This new information codes Bob as the real-time controller of the robotic/animatronic puppet he is trying to defeat, placing his actions as the chief control mechanism for the robot's behaviour. Visions of the puppet in performance are especially pronounced across the *Toy Story* films. Scenes of puppet-puppeteer interaction begin the first *Toy Story* film and mark the climax of the third in the trilogy. Such bracketing stresses the puppet as, according to Paul McPharlin, a "theatrical figure moved under human control."[37] During the first few seconds of *Toy Story*, a Mr. Potato Head Doll is thrust into the film frame as the spectator becomes instantly folded into the fantasy space of childhood play. But it is the corresponding puppet scenes of *Toy Story 3* that imbue puppet/puppeteer engagement with a greater narrative purchase. Now leaving for college, toy owner Andy delivers his cherished childhood playthings to an infant named Bonnie, whose shyness

around adults is replaced with an unbridled energy and animated demeanour when playing with toys. Handing over each of his toys to their grateful new owner, Andy cannot help but initiate an impromptu performance with objects, and the duo soon delight in making Woody the Cowboy, Buzz Lightyear and Mr. Potato Head the centre of their own repertory theatre ("Oh no, Dr. Porkchop is attacking the haunted bakery!" "The ghosts are getting away!"). During the fun and frivolity, it is Bonnie rather than Andy who begins to orchestrate the toys' movements and perform with their bodies. As Woody's new owner, it is now Bonnie who guides the doll's agency. This verifies both her new relationship with the wooden toy, but also authenticates the handover from Andy to confirm Bonnie as Woody's new puppeteer. Most poignantly, it is Bonnie who raises Woody's arm to wave goodbye to Andy. These passages at the climax of *Toy Story 3* are intended to rhyme with the scenes of Andy's playtime that open the first *Toy Story* film. Not only does Andy reprise many of his signature playtime gestures, clasping Woody on his neck and bouncing him up and down, but Bonnie also repeats several of the playful actions that have visually defined Andy's puppet playtime. At its finale, then, *Toy Story 3* climaxes the trilogy's use of a puppet-puppeteer contact to spotlight the adequacy of ownership. Bonnie's active imagination and puppet performances enforces her separation from the villainy of Sid in *Toy Story*, but also the motives of toy collector Albert "Al" McWhiggin in *Toy Story 2* who decides to preserve Woody in a glass cabinet, refusing to perform with the doll as a puppet. But Bonnie's lively puppet performance convinces both Andy, and ultimately the spectator, of her suitability by approving ownership through her willingness to assume the role of puppeteer. As Andy himself reveals to Bonnie as he entrusts her with his beloved Woody doll, "somebody told me you were good with toys." It is therefore through scenes of unbridled puppet/puppeteer interaction that *Toy Story 3* is able to mark the resolution of Andy's toy story that has been the locus for each of the three films. By

extension, the implication is that Bonnie's own authored toy story is only just beginning (Fig. 3.2).

Computer-animated films have continued to mount an increasingly apparent vision of performing objects. Their investment in the visual pleasures of puppet performance is one that creatively 'doubles' the kinds of interaction between animators and their digital objects. Indeed, puppetry has progressively entered into the lexicon of computer-animated film production as industry shorthand to describe the creative interrelationship between the *performer* (animator) and *performed* (character). The impression of continuity between computer-animated films and puppetry is typically founded upon the assumption that they share many of the same basic approaches. The computer-animated film has (since its inception) been positioned as a successor to stop-motion animation as its "closest living relative."[38] But the genre actually cross-pollinates stop-frame techniques with those associated with marionette theatre, and evokes the wealth of string marionettes (as well as rod or hand puppets) moved within a live performance setting. Ngai has claimed that:

> The difference between characters animated in the form of marionettes pulled on strings [...] and characters animated by stop-motion photography seems to be a difference in their capacity to create an illusion of independence or autonomy. At a purely visual level, stop-motion characters seem less manipulated than puppets.[39]

The unique features inscribed onto computer-animated characters and the terms of their manipulation illustrate how the genre reworks the conditions of marionette performance. In the early phases of computer-animated film production, virtual human and non-human bodies are reduced to their most basic workable geometry, comprised of a series of faces (known as polygons). Rotations give definition to the figure's expressional range, from shaping the mouths to widening the eyes, in tandem with the complex musculature supplemented with connective tissue, elasticity of tendons and the flexing of skin. Animators inscribe onto non-human and human figurations skeletal

structures complete with a degree of anatomical coherency, and delineate appropriate head and body areas. The jointed segmentation and individual limbs of computer-animated bodies are then affixed to a series of *avars* (animation variables) through a process known as rigging. These *avars* provide particular articulation points for the animator as they remotely operate the character's armature and steer its (human or non-human) complex endoskeleton. Explaining his manipulation of computer-animated figures in *Toy Story 3*, Supervising Animator Bobby Podesta states "I literally have hundreds, upon hundreds, upon hundreds of controls. It's almost like strings on a puppet, [...] but instead of a dozen strings like Pinocchio, you've got hundreds."[40] Shrek the ogre has 180 *avars* in his face alone, while Woody has 212 (and 712 in total across his string puppet body), including points on his eyebrow which can furrow, raise, arch, sneer and act surprised at the click of a mouse.[41]

The *avars* on computer-animated film bodies afford greater freedom and fluency, increasing their scope of expression and smoothness of motion. The potentials of gesture, sound and choreography of rhythm—expressions and actions that qualify the character's performance—are more controllable in computer-animated films than in physically-based puppets (though more *avars* come with greater expense). The first toys and insects puppets of *Toy Story*, *Antz* and *A Bug's Life* represent something of a progression from the stiffness of early stop-motion puppet animations. This includes Vitagraph's *The Humpty Dumpty Circus* (1898), *The "Teddy" Bears* (1907)—a re-telling of Robert Southey's *The Story of the Three Bears* made by Edwin S. Porter using stuffed toy animals—and Ladislas Starewicz's *The Cameraman's Revenge* (1912) that featured preserved grasshoppers and beetles enacting a tale of "infidelity and retribution in the insect world."[42] However, the DreamWorks/Aardman co-production *Flushed Away* deliberately adopted a compromise position that situated digital performance within the expressive freedoms afforded by stop-motion. A team of animators at

DreamWorks set out to reproduce the stop-motion plasticine aesthetic of its British-based partner studio Aardman, with a stop-motion rig transposing their "unique performance style" onto a computer-animated world.[43] The intention was to emulate the limited facial expressions of their moulded clay counterparts, including the monobrow, frown lines, replacement mouths and the look of pre-modelled plasticine heads as if "sculpted with traditional modeling tools."[44] In *Flushed Away*, certain formal restrictions governed the expressivity of its characters to faithfully integrate clay stop-motion ("claymation") puppets efficiently with the computer-animated feature-film for the first time.

The multiple *avars* controlling the movement of computer-animated characters make the genre distinct from performances achieved through other animation techniques. In stop-motion animation, there are no such "strings" governing the incremental movement of three-dimensional objects. As Richard Weihe suggests, such strings "are invisible, indeed, non-existent. Their function is replaced by the technique of frame-by-frame animation."[45] By comparison, computer-animated films incorporate precisely those string *avars* traditionally absent from stop-motion processes in its methods of movement. The puppetlike distinctiveness of the genre also extends to its difference from those performances achieved through traditional hand-drawn methods. Tillis makes clear that the two-dimensionality and status of cel-animation as a "painterly art," as well as the distinct articulation points and control mechanics involved in the creation of movement, dislocate hand-drawn techniques from traditional puppet praxis. So whereas Tillis claimed in an earlier account of performing objects that "animation, as such, is not at issue with puppet," puppetry has become a more significant concern of the computer-animated film.[46] But the hinged movements and volumetrics that power the skin, muscle and flesh underneath computer-animated bodies not only authenticate the genre's bond to puppetry, they also help compel spectators'

belief in the performances unfolding its worlds. Puppet body parts include "built-in colliders" and weight maps that govern the ballistic trajectory of the digital bodies, including muscle relaxation and hold positions, bulging, denting and reshaping. Such behavioural tweaks augment the believability of the characters' collision relationships and their bodily response, whilst also enhancing the range of acting decisions available to animators as they collide their puppets into each other across the three-dimensional space.[47]

Practitioners have been increasingly invited to reflect upon the labour of their animated work as approximating a form of computer-animated string puppetry. Pixar's proprietary "Marionette" animation program casts computer-animators in the role of puppeteer, while the studio's earlier "Menv" (Modelling Environment) software used to articulate character movements was renamed "Puppets" to further inscribe the animator as puppet-master. Brian Stokes has even suggested to puppeteers sceptical of computer-animated films that now "you'll know they are made up of virtual objects arranged in a hierarchy much like your marionette."[48] The perspective that computer-animated films are a puppet progeny of marionette theatre has often alluded to within the films themselves. Computer-animated films support their narrative investments into the creative interrelationship between puppet and puppeteer with passages informed by the disclosure of the workings of their computer-animated puppets. In *Robots*, the chaotic gesticulations of Bigweld Industries' gatekeeper Tim evoke a Punch and Judy hand puppet show. Another character, antagonist Phineas T. Ratchet's father Bob, is suspended by looping chains from the ceiling of Madame Ratchet's Chop Shop, visually aligning his performance with traditions of string-marionette theatre. But *Robots* also unveils the nuts-and-bolts of puppet production during its opening sequence, by focusing on the arrival of newborn android Rodney Copperbottom. Rodney is boxed and delivered in his constituent parts, and then assembled with ratchets, rivets and

screws in this unique (re)vision of childbirth. Despite the exhausting 12 hour "labour," Mrs. Copperbottom exclaims with emphatic glee that "Making the baby is the fun part." Reversing the Pinocchio narrative, *Astro Boy* (loosely based on Osamu Tezuka's *manga* and *anime* series) also makes a spectacle out of artificial automatons and their creation. Shots linger over the complex circuitry that comprises the skeletal framework of Toby, an uncanny robot facsimile produced by grieving robotocist Dr. Bill Tenna to replace his deceased son ("it looks just like him, doesn't it? A perfect replica").

Computer-animated film puppets typically offer a greater economy of production and faster workflow than in stop-motion, with build pipelines that allow "CG puppets to be quickly put together."[49] But the intrigue of puppet labour and the manufacturing of its "workable geometry" continues to loom large over the genre, especially in scenes that function as a surrogate for the kinds of interaction between animators and their performing objects. The renovation of Woody at the hands of toy restorer Geri in *Toy Story 2*, and the opening sequence of *9* both call upon the attentive craftsmanship and dexterity of the "hand of the artist" to spotlight the artistry of puppet manufacture.[50] If the restoration of Woody hinges upon the frailty of the cowboy doll's jointed segmentation and the weakness of his articulation points, then *9* champions its cast of "puppet people" (to use *9* animator Matthew Teevan's term) as altogether more durable.[51] The untimely death of their human animator following his completion of the final knitted doll in *9*, charges each creation with a greater resilience that belies their fragile armature and delicate multipart skeletons. Each of these sequences, then, nuances the perspective of the computer-animated film as an elaborate puppet show that entices and entrances its audiences through similar presentational modes. This is a genre that achieves its performances through a multitude of expressive and impressive puppets, each one submitted to the human hands of the animator in dramatic performance to, in the words of *Despicable Me*'s Agnes, "tell the story" (Fig. 3.3).

The unique qualities of computer-animated film production align the genre with certain features of puppet theatre. Karen Prell, an ex-puppet animator with sixteen years experience at the Jim Henson Company, was recruited by Pixar founder Ed Catmull during the late 1990s at a time "when computer animation starting replacing film and television puppetry."[52] Catmull was "intrigued by her [Prell's] puppet acting experience," and the performance skills she had honed in real-time puppetry on *Sesame Street*, the final season of *The Muppet Show* (1976-81) and *Fraggle Rock* (1983-7). The migration of Prell to computer-animated filmmaking suggests a potential correlation between the virtual manipulations of three-dimensional digital puppets moved 'live,' and the rod (and hand) operation of Jim Henson's celebrated 'muppet' creations.[53] Describing the 14 shots she animated on *Geri's Game*, Prell reveals that "It was so much fun getting into Geri. [...] If you think of him as a 3D puppet, he's so amazingly expressive."[54] The orchestration of computer-animated puppets and their limbs in this way re-inscribes a computer-animated film world as an alternate kind of live performance setting in which figures are 'worked' within a three-dimensional (rather than scenic) screen space. Each puppet action is also instantly recorded at the precise moment that it is cued. DreamWorks animator Marek Kochout explains that "Instead of taking an actual image on a camera, the computer is recording it, so then you can play it back at speed and it moves."[55] Keyframe animation systems interpolate intervening frames between those the animator manually sets. Generated by the software, these interim or intermediate movements supplement the parameters already inputted to produce continuous bodily movement (deformation, positioning, orientation), and complete any given action. The continuously recording, but also creating, computer involved in the production of computer-animated films permits a fluent integration of character movement, rather than the incremental separation of postures and poses in stop-motion frame-by-frame (and the individual drawings of cel-animation). The

technology replaces the linearity of these processes by allowing animators to return to tweak individual frames, responding to the action in real time in a continuous feedback loop with the animator to create a particular "liveness" to the performance. In computer-animated films, the technology is able to record movement. With stop-motion, it merely creates its illusion.

More than any computer-animated film, *Toy Story 2* draws attention to the specificity of the computer-animated film's puppet performances, bringing into relief the genre's status as a form of modern puppet entertainment. Learning his buried history as a popular culture icon, Woody the Cowboy stares captivated at his own string-puppet performance in "Woody's Roundup," a Western adventure series enacted with 'wooden' marionettes in the style of *Howdy Doody* (1947-60) and Gerry Anderson's 39-episode Supermarionation series *Four Feather Falls* (1960).[56] Each episode of "Woody's Roundup" (until its unforeseen cancellation) is an allusion to an outmoded media form marked by visual cues that connote a sense of the 'vintage.' But the fictional puppet history of Woody in "Woody's Roundup" gestures towards the character's reality as a computer-animated film performer, and the conditions under which his puppet performance is recorded for spectators' pleasure. Rather than an elaborate self-portrait, "Woody's Roundup" functions as an intrusive X-Ray exposing the cowboy doll's unique puppet origins (just as the toy advertisement in *Toy Story* precipitates Buzz Lightyear's existential crisis of identity). The black-and-white tint of the television—on which the grainy VHS is displayed—even evokes the X-ray's radiographic and radiological power, irradiating the shots of Woody and 'diagnosing' the truthfulness of his puppet biology.[57] "Woody's Roundup" makes visible the marionette strings that govern Woody's rickety, saccadic movements and the jerky agitations that contrast to the fluidity with which he otherwise moves. It also spotlights the pivoted movement and sectioned body of the cowboy doll, including his every notch

and worn imperfection, as he dances through the flimsy, two-dimensional painted backdrops. Jerome Christensen has queried the connection between the film's multiple Woodys, dismissing the television edition by refusing to acknowledge it as an "earlier version of a self that had evolved, metamorphosed, or somehow acquired a personality."[58] This distinction holds because of the separation that Christensen enforces between "Woody the puppet and Woody the toy."[59] Animated by Prell's husband and ex-'muppeteer' Mike Quinn, "Woody's Roundup" is not a false memory but a revelatory video representation of the puppet spectacle of computer-animated films, including the duality of obstruction and exposure that governs the agency of its puppet characters. Both "Woody's Roundup" and *Toy Story 2* recuperate Woody into a recorded marionette theatre. The cowboy doll gazing transfixed is no less a "filmed" puppet-in-performance than the one he glimpses on the television screen. And when the watching Woody starts to re-enact the movements and gestures from his "Woody's Roundup" performance, the two sets of marionette strings become irrevocably, yet fascinatingly, tangled (Fig. 3.4).

The folding of puppet practices into the production of computer-animated films, in collaboration with the multiple narrative references to puppets, identifies puppetry as a vital component of the genre's stagecraft and helps to key its specificities of performance. The break between traditional and more modern or contemporary forms of puppetry is not always sharp or clean. Reviewing puppet history and praxis offers an insight into the computer-animated film as a new kind of puppet performance space, whilst enabling a more flexible and expansive (re)definition of what has traditionally been connoted by digital puppetry. Recent critical investigations situating computer-generated imagery as an annexe to the performing objects tradition have tended to afford generality to motion-capture as the dominant mode of cyber or virtual puppetry.[60] The majority of scholarship on computer-animated film performance has likewise

focused on the use of motion-capture technology for the numerous questions it raises regarding actor mediation. As a technique that conventionally transcribes human activity and movement (bodily, facial) through motion sensors (physical *avars*) that are relayed via computer software, motion-capture maintains the human body as the primary control mechanism. In fact, as Barry King asserts, it "grips it like an every-tightening glove."[61] The technology manifests the labour of animated performance through a real-time correspondence between contribution and animation, without any pause or lag. Within the context of the computer-animated film, however, motion-capture has been used sparingly rather than exhaustively. *The Polar Express*, *Monster House*, *Happy Feet*, *Beowulf*, *A Christmas Carol*, *Mars Needs Moms!*, *The Adventures of Tintin: The Secret of the Unicorn* and *Happy Feet Two* (2011) are the only computer-animated films (to date) to have embraced the performance possibilities of the technology. The disclaimer contained within the credits to *Ratatouille* (declaring motion-capture to be a "performance shortcut") reflects unease about the way the technology has been aligned with traditions of animated acting. Pixar's announcement that *Ratatouille* is "100% Genuine Animation" indicates how motion-capture has been uncoupled from its possible animation lineage (despite its contiguities with the Rotoscope process).[62]

Motion-capture is likewise a technique that is not indigenous to the computer-animated film. It has a sustained screen life in live-action/computer-generated composites, conventionally aligned with the high production values and visual spectacle of action-adventure films, as evidenced by its deployment in the *Lord of the Rings* films, *King Kong* (2005), *Avatar* (2009), *Rise of the Planet of the Apes*, *The Avengers* (2012) and *The Hobbit* (2012). Popular discourse and industry publicity have also contributed to motion-capture's *myth of authorship* in which there is a perfect accord between actor and animated performance. Describing the motion-capture performance

of Anthony Hopkins in *Beowulf*, Animation Supervisor Kenn McDonald recognises how a single motion-capture actor can help "drive the performance, [and] the twitches he [Hopkins] used to create his character will be consistent throughout."[63] In truth, however, there is little requirement for the performer and resultant performance to align exactly, and many computer-animated films using motion-capture have eschewed the consistency afforded by a single actor. For *Mars Needs Moms!*, actor Seth Green provided the motion-capture movements and voice for 9-year-old protagonist Milo, only for his vocal performance to be replaced by child actor Seth Dusky during the film's post-production.[64] Actor Gary Oldman (motion-capture) and child actor Ryan Ochoa (voice) also contributed to the composited performance of Tiny Tim in *A Christmas Carol*. Practices such as these align motion-capture with other types of animated acting in which multiple actors combine to create one animated performance. The technology can also be placed in conversation with cinema's wider tradition of dummies, doubles and stand-ins that have meant different bodies, rather than just one actor, can be used for the same character.[65] This chapter argues that puppetry can be understood as an altogether more inclusive category that pulls a range of computer-animated films into its orbit, one that opens up the genre by revealing the sliding scale of puppet processes involved in its creation of performance. Computer-animated films expand a discussion of puppetry beyond those (exceptional) films that use motion-capture technology, identifying the particular methods by which the genre's performances can be both achieved and appreciated.

Puppetry is also an attribute of the kinds of performances that hold computer-animated films distinct from both cel-animation and stop-motion forms. It relates to the particular 'puppetlike' skeletal design of computer-animated bodies, as well as connoting something of the creative contact between animator and character. A primary site of animated specificity or animatedness, puppetry is further implicated within the

dynamic cinematic geography of computer-animated films, and the heightened vigour and vitality of their worlds. This is because animatedness has been understood as an excess or surplus of animation, one that typically manifests in an "exaggerated performative character," and a certain quality that "separates the automaton from the autonomous, the regulated from the resistant."[66] These same features of uncontainable energy have been conceptualised according to their degrees of association with the movements of a puppet. For Ngai, animatedness is not just rampant vitality or positive wilfulness, but an "exaggerated responsiveness to the language of others that turns the subject into a spasmodic puppet."[67] To be animated is, therefore, to submit to a defenceless state as if controlled by an invisible other: erratic and unbridled activity seemingly the product of a hidden puppet master, whose manipulations enforce the subject's separation from the inanimate.

The 'puppetlike' connotations of animatedness envisaged by Ngai—relating to an oversupply of energy and the visible manifestation of "high spiritedness" or unrestrained force—certainly evoke the etymological origins of 'motion' as the sixteenth century English word for 'puppet show' (used to occasionally denote the term puppet).[68] Animatedness also indicates how the specificity of performance in the computer-animated film contributes to the agency and arresting activity of its Luxo worlds. Their puppet performances enmesh one perspective of animatedness (those specificities or qualities holding computer-animated films distinct) together with another, that of animatedness as heightened expressiveness and excess vigour. The puppet is therefore not just part of what individuates the genre in the type of performative illusion it engenders (the juxtaposition of the puppet and the hidden activity of an operator), it also suggests something about why such lively and 'animated' acting is so appealing in the computer-animated film. These puppet performances create a fluctuating urgency that enlivens the virtual space by making it

seem receptive to invisible control. Part of the attraction and desirability of computer-animated films lies in their democratic treatment of performance. Their visual field always appears available and hospitable to the arrival of new enlivened puppets. Spectators are routinely made witness to a range of (soon-to-be anthropomorphic) objects on the cusp of unexpected "spasmodic" activity. To call upon Aura Satz and Jon Wood's term for the endowment of "a curious, [and] at times uncategorisable collection of things with the capacity for voice, speech or expression," a computer-animated film is replete with any number of "articulate objects."[69] But there presides an instability to performance, even a rejection of acting, which contributes to the computer-animated film's allure. Not every object is necessarily primed for agency. The inanimate plastic dolls in *Flushed Away*, for example, deprive rodent protagonist Roddy of his desired companionship. Reversing the *Toy Story* narrative, the dolls' moulded and immobile expressions are a counterpoint to Roddy's range of facial features and heightened expressiveness that confirms his computer-animated ancestry. Just as Wall-E trawls the earth's surface for keepsakes (discarding some, keeping others), animators source the terrain of a Luxo world to find and decide upon its "articulate objects," and coerce them into a screen performance. The computer-animated film thus has many points of "articulation" readymade as potentially "spasmodic." Reflecting the puppetlike disposition of its inhabitants, the computer-animated film and its worlds fascinate through its many moving parts.

Such performative 'openness' gives computer-animated films greater licence to play with conceptions of the supporting cast and with it, definitions of the 'extra.' Through playful intertextual practices, figures at the margins of one computer-animated film can perform as more active main characters in another. Examples include canine Dug's fleeting appearance in *Ratatouille* (prior to his primary role in *Up*) or Geri's migration from *Geri's Game* to Woody's skilled restorer in *Toy Story 2*. Computer-

animated films can thus be understood to negotiate performance in terms of its relevance and re-usability, while reworking the status of the extra as part of a film's "unknown quantity."[70] The traditional narrative function of the extra to add "substance" and a performance "atmosphere" is redefined by a computer-animated film genre that can introduce substance through performance. For example, *Up* permits Lots-O-Huggin' Bear a brief intertextual screen presence as an uncredited (and inert) part of the film's decor. It is not until *Toy Story 3* that the character becomes charged with his duplicitous and villainous performance. Computer-animated films require spectators to navigate and understand performance intertextually, to respond to acting in ways that acknowledge the lively transference of a performer from one text to another. Embedded within the puppet performances of computer-animated films (as a form of modern puppet entertainment) therefore lies a valuable dialogism, not just enacted between puppets and puppeteers but between puppeteers and audience. Proschan has drawn attention to the "creative participation of audience members" within the entertainment spectacle of a puppet show, one which is not "fixed and frozen in form" but rather an intersection or "cocreation of puppeteer and audience."[71] The role of the audience has been posed within the context of performance in animation, with Crafton noting the spectator "who must assent to the films' offers to perform."[72] The articulation of convincing and multi-faceted characters with alert personalities certainly invites the spectator's engagement and spectatorial concern. But intertextual processes are only one of the ways that the genre can involve spectators within the "co-creation" of puppet performance, and the creation of life.

In the context of the computer-animated film, the notion of 'performance' operates at multiple levels. Acting both sustains, and is sustained by, the genre's excessive merchandising and dominant franchise mentality. Computer-animated film characters are undoubtedly "transmedia" property, and thus their performances operate

'transmedially.' Acting functions as an integral point of continuity across a variety of screen and print media. A particular character (and their performance) can be repeated, extended and modified across supplemental content including the requisite feature-length sequels, prequels and spin-offs, but also any number of short films and tie-in television series. Additional texts can respect the integrity of performance continuity, or conversely disrupt the performance precedents established within a self-enclosed franchise. When Buzz Lightyear is accidentally reset into 'demo mode' in *Toy Story 3*, for example, he is returned to his original *Toy Story* existence, a militant 'Astro-Nut' once more sworn to the galactic allegiance. Later, he is further switched into an amorous Spanish lothario. *Toy Story 3* brings into relief how personality and performance for toys is open to immediate and inadvertent change, and it is Lots-O'-Huggin' Bear who knows the implications of the user manual and, more dangerously, the factory setting. Buzz's highly animated and "spasmodic" performance in *Toy Story 3* relies upon spectators' familiarity with the character's default performance, playing on its repetition and ultimately its comic disruption. It is the spectators' recollection of Buzz that must account for the character's own memory loss.

Any number of transmedia outlets may support or develop a character's performance by co-opting them within new media forms, including DVD menus and hidden DVD features that take the form of brief 'bonus' video shorts. Commentaries on DVDs are commonly done 'in character' in ways that utilise performance to give definition to a puppet performer (to 'characterise' them). Even ephemeral media such as TV adverts and teaser trailers place the stress upon character performance and the development of defining behavioural traits, voices, physicality and movement, as well as their conflict and interaction with those characters that share the fictional world. Multiple media formats therefore offer spectators a coherent, unified cross-platform narrative experience. The multimedia expansion of computer-animated films is

inextricably linked to issues of acting, and the intrigue and growth of a Luxo world develops with the creation of new sites of performance. Like the world in which they appear, characters appear developed enough that their performances "cannot be contained within a single medium."[73]

Acting in the genre is spreadable, unfurled across ancillary income streams and forms of distribution. The wealth of promotional merchandise further invites spectators into an extra-textual performance with the genre's objects. Computer-animated film characters are typically sold as toys, becoming collectible commodities and consumer products. Such commodities involve children in highly personalised performances to re-enact (and radically debate) the fantasy of the films in which these characters originally appear. Videogames even enable spectators to assume something of the animators' puppetlike control, revisiting and replaying events in the film, but also new scenarios that expand the boundaries of the fictional world. Describing the wealth of memorabilia that has become a consumer staple of the Disney store, Maurya Wickstrom argues that "The costumes hanging everywhere in the stores invited children to perform as Disney cartoon characters, both animal and human."[74] The attraction of costumed performance and the pleasures of an 'animated' wardrobe are made particular features of *Rio*, during a scene in which human protagonists Tulio and Linda dress up as blue macaws as part of a Brazilian "carnaval" festival. Tulio's squawking and vocal imitation of the film's anthropomorphic avian cast recalls Disney's *The Jungle Book* (1967), in which the feral mancub Mowgli likewise enacts and emulates multiple animal behaviours during the film's musical numbers, including bearlike lethargy ("Bear Necessities"), a "military style" elephant routine ("Colonel Hathi's March") and primate exuberance ("I Wanna Be Like You").[75] But Tulio and Linda's birdlike gesticulations and imitative costumed performance in *Rio* stages the kinds of creative exploration of performance encouraged by the widespread availability of outfits. The temptations of costumed performance

evoke the audience participation common to puppetry, allowing spectators to respond, at their leisure, to the "invitations to this dress-up play"[76] (Fig. 3.5).

The costumed activity of Tulio and Linda in *Rio* additionally conjures up images of the computer-animated film's (often extensive) post-cinema life that specifically extends their puppet identity. Certain interactive amusement park attractions employ sophisticated real-time digital puppetry to involve spectators in an immersive experience of familiar characters 'acting' in new performance spaces.[77] A variety of lavish, high-budget stage shows have also recreated and recaptured the narratives of computer-animated features in live theatrical performance. Examples include the many 'On Ice' extravaganzas and street spectacles, such as the recent *Toy Story 3 On Ice* show and the "Pixar Play Parade" (which began at the Disney resort in 1998), but also performances like the recent "*How to Train Your Dragon* Live Spectacular" show featuring twenty-four animatronic dragons. These diverse puppet productions require a host of skilled puppeteers to reanimate animated performances, (often simultaneously) impersonating the character's personalities whilst performing the puppeteered actions. Rebecca-Anne Do Rozario has suggested that such stage actors are "visible as the plasmatic force of the puppets, costumes, and masks, in turn elasticized by them, over enunciated and rendered more flexible."[78] The attraction of such stage shows rely upon a human actor's realisation of animality, and the manner in which they develop a particular performance relationship to the puppets, masks and other performing objects they handle.

Negative reactions towards the puppet typically call upon a vocabulary drawn from the uncanny and grotesque, which describes puppetry's "fundamental strangeness."[79] As Tillis identifies, the puppet occupies a place "within the margin of doubt."[80] Puppetry's peculiar fascination is further rooted in the spectators' simultaneous processing of the illusion and mechanics of that illusion, the outward sign

and its inner workings. Tillis has described this effect as the puppet's "double vision," arguing that "the puppet invariably exposes the presence of the operator behind it, even if it occludes that presence by taking focus as the site of the operator's performance."[81] This chapter argues that it is the perceptual challenges posed by the performed puppet, and the recognition of its paradoxical modality as both manipulated object and autonomous character, which are a principle pleasure of computer-animated film performance. Multi-faceted characters are enacted through a specific set of utterances, impulses and gestures that support emotional investment and elicit sympathy. The spectator thus remains conscious that any acting by digital puppets involves the work of an animator. In this way, the puppet cannot help but implicate the puppeteer. Without them, puppets are dead matter. For the puppet to act it must *enact* the animators' contribution and make visible the traces of their effort and exertion. As a popular form of digitally-mediated acting, then, performance in the computer-animated film is not undermined by the visible absence of the film actor, but rather enlivened by the particular terms of their occlusion.

Monsters, synch: the star voices of computer-animated films.

> The audio protocol can produce no fascinated listening: conceived to reinforce the lifelikeness of the anecdote, sound is merely a supplementary instrument of representation.[82]
> ----- Roland Barthes, *The Rustle of Language*

> The star voice [...] acts as a mark of both subjectivity and objectivity, freedom and constraint, control and lack of control. And technology, electrical recording, has exaggerated this effect by making the vocal performance more intimate, more self-revealing, and more (technologically) determined.[83]
> ----- Simon Frith, *Performing Rites: On the Value of Popular Music*

The ascription of speech (as a dynamic sound form) to the computer-animated film's puppet performers contributes to the effect and impact of their performances. It is the vocal element that foremost constitutes these puppets as articulate and enlivened subjects. Performance across computer-animated films is certainly more than the vocal element, and many have been praised for their abilities to rehearse and recall the virtues of silent film acting.[84] Several characters act in a measured and considered fashion, personified by a screen performance keyed through mute responsiveness. But others are defined entirely through their proclivity for verbal communication, falling victim to speech as a signifier of their character. The presence and expressive power of the voice typically gives computer-animated films one of its most distinct performative stamps, and the genre's linguistic richness is certainly one of its anticipated pleasures. Computer-animated films include a range of characters that protest, splutter, complain and argue as they become speaking agents: impassioned and animated subjects granted sudden verbal excess. The genre therefore provides the ideal place to (re)discover and examine the voice as an expressive technique within the armoury of animation's performance rhetoric.

Indeed, the voice is a necessarily concentrated instrument of performance within the practicalities of computer-animated film production. The actor's voice is typically

their only contribution and the sole evidence of their participation (though this is less true when motion-capture has been used). While recording sessions are commonly taped and played back for the animators' visual reference, the vocal performance, as Karen Paik notes "has to work independent of body language and facial expression."[85] The distillation of the voice is refined through an unprecedented number of takes. The director often assumes a position 'on set' and accompanies the actors as they deliver their lines (while the recording booth houses the multiple sound engineers). This arrangement ensures maximum productivity as the director can offer instant feedback, direction, encouragement and clarification, whilst allowing the voice actors scope to repeat and modify their dialogue with each delivery over multiple takes. Paik describes the numerous demands placed on an actor who "must be "on" for hours, doing take after take without the benefits of sets, costumes, or even other actors."[86] The computer-animated film voice is also a stream of recorded speech purified inside an aurally-deadened studio, delivered and archived with a degree of sonic sterility. As Helen Macallan and Andrew Plain argue, these are voices "unencumbered by the extraneous and uncontrollable noise ("dirt") of live-action film production."[87] The computer-animated voice is a clean voice, distilled from audible contamination and especially conducive to audio-mixing techniques such as "panning" that spreads the sound signal into a multi-channel sound field. Macallan and Plain suggest that the fundamental gluing of voice to body in computer-animated voice acting may mean that "voice panning will be increasingly identified as a defining characteristic of animation."[88] Certain developments in sound recording technologies and equipment have also proven especially valuable for the practicalities of animated voice-work, including portable recording devices and sound samplers. Compression on digital sound files and their complex layering has also alleviated logistical issues of negotiating complementary

schedules between vocal performers, which necessitate that separate streams of vocal audio to be seamlessly edited together.

Since the emergence of the feature-length computer-animated film, Ben Fritz and Claude Brodesser have proposed a three-tier system that structures the majority of its voice work. They argue that contemporary animation studios are bound by the desire to "1) get superstars; 2) get recognizable names; 3) get an unknown."[89] This chapter is concerned with the dominant categories of "superstars" and "recognizable names," and the ways in which the star voice functions as an integral performance element within the construction of acting in the computer-animated film. Their narratives are unable to draw on aspects of stardom generally located in the photogenic organization of familiar human physiognomy, and so instead rely upon the phonogenic aspects of an identifiable star voice. For Philip Drake, the immediate familiarity that a spectator has with a star's iconic voice identifies such performers as ideal candidates for animated voiceover:

> Often neglected, the voice of the star is a potent sign in the idiolect in that it is often read, like the body, as the site of 'presence.' The voice is the most easily recognisable sign assignable to any star, perhaps one of the reasons why stars are frequently used to voice and thereby anthropomorphise animated characters.[90]

The expressive materiality of the star voice and its audio 'visibility' are certainly conducive to the looseness and fundamental separation between sound and image in computer-animated film voicework. Stars are mediated figures, and their voices operate disjunctively "as something detachable from the star's personality."[91] Held independent from the body, the star voice is a potent performance sign with the ability to embody the appeal and attraction of a star, manifesting their stardom in vocal form. Within film production in Hollywood, the star's voice is central part of their capital. The recognisable properties of a star voice are therefore ideally suited to a computer-animated film genre in which the voice itself, as William Whittington suggests, functions as a "kind of special effect [...] much like the image-sound relations found in

puppetry."[92] The star throws their voice through the technologically-mediated act of ventriloquism into these computer-animated puppets, who momentarily borrow it on loan.[93] Such is the potency of star speech that it works against the concealment of the dubbing process that is fundamental vocal performance in the genre, and is accepted by spectators rather than rejected (unlike spectators' responses the poor post-synchronisation of sound). But the potency of the star voice is problematised by the manifold post-production dubbing practices involved in the construction of computer-animated film speech.

Computer-animated films exist as multiple language versions, and their characters are polyglots for the countless languages they can (be made to) speak. Many films produced outside the U.S., such as *Kaena: The Prophecy* (2003) and *Dragon Hunters* in France; *Midsummer Dream* (2005) in Spain; *Free Jimmy* (2006) in Norway; *A Fox's Tale* in Hungary and *Animals United* (2010) in Germany have all been re-dubbed with high-profile Western stars to replace the original voice cast who may otherwise be unknown outside of their country of origin. In the reverse process, computer-animated films produced by animation studios in the U.S. and U.K. have been successfully re-dubbed for release abroad, either to replace or coexist with an English-language, subtitled edition. The dubbing process is certainly more feasible and accepted in animation as a medium than it is in live-action cinema. Within the specificities of animation as a particular kind of sound cinema, the animated voice is itself a dubbed voice and lip-synching "is as much of an issue in the original as it is in the translated version."[94] But the intricate network of re-voicing practices can bring into disrepute the vocal input of the star. Jeff Ulin contests that "when Tom Hanks does not play the part [of Woody in *Toy Story*] in the German version, nor Eddie Murphy [as the Donkey in *Shrek*] then those actors do truly do not ever appear in the film."[95] Local industrial practices have, however, managed to maintain star consistency. Hollywood stars have

their voices replaced by specialised dubbing artists who, over time, become the specific 'foreign voice' of that star. As Anne Karpf suggests, this process strives to "preserve a sense of 'authenticity' in the voice," while in some transnational cases the dubbed star voice can become "more authentic than the actor's own."[96] A second issue raised by star voice dubbing in the computer-animated film is the value of impersonation and imitation. During the automated dialogue replacement (ADR) and looping processes that are used to obtain a more intelligible and stable sound, stars "will do some dubbing or post-synchronisation of the voice during sound re-recording."[97] This is an accepted element of the star's working responsibility prior to any further promotional commitments. Certain bilingual stars can, however, utilise their vocal talents to essentially re-dub their own star voice for a film's release abroad. Spanish actor Antonio Banderas re-voiced his eponymous role in *Puss in Boots* (2011) in five separate languages (English, Italian, Latin American Spanish, Castilian Spanish and Catalan).[98] But the specific phonological features and recognisable enunciation of the star voice mean that it can be accurately impersonated by (generally uncredited) sound doubles when the original star is unavailable. Vocal mimicry of this kind has proven a particular feature of the computer-animated film's franchise mentality, in which the star sound is multiplied across a range of consumer products. It is commonplace for stars to reprise vocal roles for feature-length computer-animated film sequels. The attraction of the multi-part computer-animated film franchise is the return of the primary ensemble star cast in the latest instalment. There are a few exceptions, including the replacement casts for low-quality, direct-to-video sequels (*Open Season 2* (2008) and *Happily N'Ever After 2: Snow White Another Bite @ the Apple* (2009)). But computer-animated film sequels traditionally use the star voice as the repeating constant within the sequel's own agenda of repetition, reiteration, return and renewal.[99] The voice of a star is a connective between films that manifests both the star actor's popularity, but also evidences their

capital as a useable and re-usable Hollywood commodity. Stars are, however, more likely to be replaced for subsequent television series adaptations due to the lower budgets afforded to small-screen programming, though it is not unprecedented for the original (non-star) voice actor to perform in both. *Monsters vs. Aliens: The Television Series* (2013-), *The Penguins Of Madagascar* (2008-), *Kung Fu Panda: Legends Of Awesomeness* (2011-), *Cars Toons* (2008-), *DreamWorks Dragons* (2012-) and the *Star Wars: The Clone Wars* series (2008-13) are all television spin-offs relying on substitute voice performers that verbally mimic the original star voice (to varying degrees of success). Star voice impersonations remain equally rife in videogame spin-offs too, though they become more of a necessary requirement where the original star voice actor passes away between computer-animated film sequels. Examples include Blake Clark replacing Jim Varney as Slinky Dog in *Toy Story 3* and Lloyd Sherr replacing George Carlin as Fillmore in *Cars 2*. Whether enforced or otherwise, such dubbing practices illuminate the visible importance of the star voice within the "transmedia" performance of computer-animated film characters. The vocal bifurcation of the star voice through sound doubles is a (frequently necessary) practice that reflects a desire by studios to preserve the vocal continuity of a computer-animated character who spectators expect to speak in a certain 'star' way.

The many screen bodies assigned to the star voice across the genre is often (but not always) a non-human and always (though not often) one whose performance can be distinguished in relation to the persona or iconography of the star. This chapter unpacks the fluctuating levels of correspondence between the star voice and the animated image to illustrate the voice within the creative relationship between puppeteer and puppet. Proschan asserts that "puppets, of course, cannot speak for themselves," and the coexistent presence of the vocal performer alongside the animator completes the screen performance.[100] But it is not just the vocal performer who must "actualize" character

qualities through vocal inflection. The animator is placed in an unprecedented position of being able to "actualize" the star and bring them into existence within a computer-animated world, anchoring their voice to a given place and to a particular kind of puppet performer. Involved in the transference of the true star origin of words into new animated bodies, the animator plays an increasingly important role in computer-animated film voice work. The animator "actualizes" the star voice into variable pitches of emphasis, dialling up the star's involvement to a range of disparate volumes through schemes of performance. Indeed, David Goldblatt has employed ventriloquism as a metaphor to describe spectators' engagement with, and interpretation of, works of art. Goldblatt notes how artworks assume "independence from its makers and, to an extent, from the art world that gave it life."[101] In the computer-animated film, there are multiple processes of ventriloquism in operation. The animators, in collaboration with the star performer, speak in compelling unison. The porosity of the audio and visual allows star speech to be textually cued in ways that contribute to the liveliness of the performance. The impact of the star voice in the computer-animated film is, as this chapter argues, dramatically achieved through (and derived from) the creative ventriloquism of its delivery.

The abundance of star sound across computer-animated films has been attributed to two particular milestones within animation's very recent history: Robin Williams' energetic delivery and heavily-improvised vocal performance as the Genie in *Aladdin*, and the "revolving door" of celebrity guest voice actors in *The Simpsons*.[102] But the "starry-eyed" leaning towards star voices that defined the U.S. animation industry in the 1990s was rapidly intensified by the advent of the computer-animated film.[103] Starr A. Marcello thus contends that animation of the 1960s and 1970s is "much less interested in the use of major movie stars than it is today."[104] Computer-animated films continually attract a host of Hollywood stars and high-profile performers, making (the

presence of) a star voice into a particular requirement for contemporary animated cinema. They have also successfully paved the way for video games to begin to employ high-profile celebrity casts. Among the top eight most commercially successful stars of North American cinema during the 1990s—Tom Hanks, Jim Carrey, Tom Cruise, Mel Gibson, Harrison Ford, Mike Myers, Will Smith and Bruce Willis—five have performed in computer-animated film voiceover, often doing so more than once (including multiple roles in a single film).[105] Among the following decade's most successful box-office performers, almost half the top ten had already provided the voices for computer-animated characters: Samuel L. Jackson (*The Incredibles*), Hugo Weaving (*Legend of the Guardians: The Owls of Ga'Hoole* (2010)), Owen Wilson (*Cars*) and Ian McKellen (*The Magic Roundabout*). As of 2012, the addition of Johnny Depp (*Rango*), Robin Williams (*Robots*, *Happy Feet* and *Happy Feet 2*), Eddie Murphy and Cameron Diaz (*Shrek* franchise) on the highest grossing actor/actress list has consolidated the presence of computer-animated voice-work within a star's body of work.

However, Marcello identifies that many of the current discourses surrounding star voice acting outline the detrimental impact of "celebrity voice actors" and the profitable business of animated voice work.[106] When combined with the revenue generated by excessive merchandise, tie-ins and the requisite multi-film franchise, voice acting can offer a cost-effective return for a vocal performer who may be 'on set' only occasionally (albeit in recording sessions that can extend over a period of several years). Depp's voice work on *Rango*, for example, was completed in a tight twenty day window, while Woody Allen recorded all his dialogue for *Antz* in only five. The abridged schedule suggests voice acting is an ancillary, extra-textual endeavour undertaken by stars between more demanding live-action roles.[107] The perceived authority of the star within computer-animated film voicework is also made culpable for

clouding the merits of the trained voiceover artist, and taking work "away from the core group of voice actors."[108] Despite such widespread resistance towards star voices radiating from the specialised voice-acting community in America, the involvement of stars in computer-animated films has ultimately dissolved much of the stigma typically attached to animation voice-work. Experienced voiceover artist Billy West admits "years ago, celebrities wouldn't bother with cartoons; they'd look down their nose at them. But since they crashed the party here, nobody looks down their nose at it."[109] Actor and comedian Don Rickles, who provides the voice of Mr. Potato Head across the *Toy Story* franchise remembers his own reservations about undertaking voiceover work, claiming his initial reaction was "I've worked my whole life to try to be a success. I don't need to be a toy."[110] There is also increasing evidence that the star voice in computer-animated films is challenging the Hollywood film industry's history of overlooking voice-acting as a discipline.[111] Depp's performance in *Rango*, for example, renewed the debate as to whether the Academy of Motion Picture Arts and Sciences should introduce its own award for animated voiceover. In April 2011, the *Voice Over Times* started an online petition for the Oscars to originate a Best Voiceover Performance category, the objective of which was to "achieve a measure of recognition for voice actors that is on-par to on-camera actors."[112]

The computer-animated film's commitment to the star's vocal presence, alongside their ability to attract established performers willing to enter the voiceover business, typically remains the reserve of popular discourse. Only recently have scholars such as Rayna Denison and Rebecca Asherie begun to unpack the "dense network of meanings" that surrounds star voice acting.[113] Vocal performances by stars can be sealed off from its other sounds, and more closely intertwined with aspects of computer-animated film performance. To identify how the star voice is made to creatively coalesce with the animated image, this chapter turns to the work of sound

film theorist Michel Chion. Chion has discussed the auditory and visual aspects of film in terms of an illusory "audiovisual contract" operating between sight and sound. This "contract" is crafted around what he terms "added value," in which screen images can assume certain "phrasings" according to how they are enriched and contextualised by a film's carefully chosen soundscape.[114] Such "added value" is especially operational in the area of *synchresis*. A neologism produced out of the combination of "synchronism" and "synthesis," synchresis is defined as "the spontaneous and irresistible weld produced between a particular auditory phenomenon and visual phenomenon when they occur at the same time."[115] From the "monstrous yet inevitable" agglomerations which emerge from discontinuous image/sounds in experimental film, to the rousing non-diegetic orchestral music of Hollywood blockbusters, synchresis refers to the spectators' mental fusion (and acceptance) of sound and image as compatible when they accompany each other onscreen.

Chion's work on synchresis is particularly valuable to the study of the star voice in the computer-animated film. The concept of "added value" is a fundamental act of ventriloquism. The "phrasing" of an image by sound is a ventriloquial act that structures vision by "rigorously framing it." It suggests possession of a puppet by ventriloquist's speech so that it may seem to speak for itself. But synchresis is by definition a phenomenon of cinema that occurs in reception. It is a "reflex psychological phenomenon that depends on our nervous and muscular connections."[116] Computer-animated films fully exploit the spontaneous coupling of sound and visual events, and the attribution of concomitance that spectators do as a psychological matter of course. Chion argues that synchresis is "not totally automatic" but also "a function of meaning." In the computer-animated film, synchresis is a product of the finely tuned textual organisation of sound and image, the specific "phrasing" of which emerges from the particularities of their mutual reinforcement. This chapter argues that the three

categories of *anthropomorphic*, *autobiographic* and *acousmatic* synchresis frame the computer-animated film's dominant synchretic unions, and reflect through nuances of performance the manifestation of the audible momentarily colliding with the visible. Each category implicates and expands upon the genre's use of the star voice in what Roland Barthes has called "fascinated listening." While "hearing" is simply a physiological phenomenon, Barthes suggests that "listening" involves a more alert (and psychological) activity and the attentive "deciphering" of that who is speaking.[117] Such categories relate to the degrees of attachment that the star vocal track has with the performance (and design) of the puppet speaker. The terms anthropomorphic, autobiographic and acousmatic synchresis thus revise the tensions between star image and screen performance that Richard Dyer outlined as "selective use," "perfect fit" and "problematic fit."[118] The genre exploits those elements comprising the "structured polysemy of the star image" for the expressive and performative possibilities of the computer-animated image. This chapter contends that the star voice is a more active ingredient in the construction of performance than has hitherto been identified, and that a greater interrogation of the voice offers a way of critically engaging with the charges brought against star voice casting in the computer-animated film.

The humour and dramatic impact of anthropomorphic synchresis derives from the star voice's synchrony with a mutated (and non-human) visage or bodily form. The spectator's blindness to the vocal source is tempered by the maintenance of the star's primary physical features, skilled vocation, or elements of their persona, albeit playfully channelled through the genre's anthropomorphic register. Anthropomorphic synchresis balances the morphē with an ánthrōpos or humanity that is tied to the star's extra-filmic identity. It rewards the spectators' disentanglement of the specific qualities of the star image from the anthropomorphic character that performs in a fictional computer-animated film world. The performance of Puss in Boots, Z in *Antz*, Frozone in *The*

Incredibles and Finn McMissile in *Cars 2* all revisit the prior screen roles of each character's voice performer (Antonio Banderas, Woody Allen, Samuel L. Jackson and Michael Caine). Marcello has identified how "persona typecasting" in the computer-animated film has been defined as an increasingly awkward correspondence between a star's real-life personality and computer-animated character, rather than the suitability of an actor for a role. The star is seen to have the potential to obscure the path that the character would have taken had a specialist vocal performer (and non-star) been cast in the role. But it is the creative methods by which the genre stages the meeting of the audio and the visual that reinforces and secures this particular synchresis effect. *Shark Tale*'s approach to anthropomorphic synchresis, for example, is to remind spectators of its ensemble cast through the details of character design. Actress Angelina Jolie's full lips, high cheekbones and pale skin were transposed onto her aquatic character (a sultry and seductive lionfish named Lola). These anthropomorphised features foster a continuity of appearance between Lola and Jolie's other notable screen roles during the 2000s, such as *Lara Croft: Tomb Raider* (2001), *Original Sin* (2001) and *Mr. & Mrs. Smith* (2005), by re-animating through schemes of selection her "dark hair, equally dark large eyes, [and] the high arch of her sculpted eyebrows."[119] But the film also gives primacy to the actress' assertive and assured star persona that, as Paul McDonald argues, is additionally constructed around her sex appeal and "trademark dark, pouting sensuality." Within the ventriloquised puppet performance of Lola, *Shark Tale* places Jolie's star voice into a specific audiovisual configuration that differs from her vocal roles in the *Kung Fu Panda* films (in which she voices a South China tiger), and *Beowulf* (Jolie plays a supernatural, metamorphosing reptilian).

Anthropomorphic synchresis also accounts for those instances where stars perform as skewed, anthropomorphic 'versions' of themselves, rather than wholly fictional creations. Best remembered in this spirit are many of the automobile characters

in the *Cars* franchise, which are anthropomorphic re-interpretations of the real-life celebrities who voice them. But there is evidence of this practice across elsewhere. *Surf's Up* transformed professional surfers Kelly Slater and Rob Machedo into penguins, while musicians Dolly Parton and Elton John became garden gnomes in *Gnomeo and Juliet*. A short sequence from *Bee Movie* acknowledges this tendency to bring sound and image together via anthropomorphic synchresis. Appearing in a parody of Larry King's CNN programme *Larry King Live* (1985-2010) entitled "Bee Larry King," protagonist Barry B. Benson draws attention to the fact that King's physical features and behavioural facets have been re-appropriated within an anthropomorphic context, joking that "they have a Larry King in the human world too." Bee Larry King has Larry King's signature suspenders and "old guy glasses." He also "always leans forward," has "pointy shoulders" and squinty eyes. The coupling of King's distinctive gravelly, baritone voice and New York accent with a character design that acknowledges aspects of his media identity, crafts a particular kind of synchretic collusion between the audio qualities of King's star voice and the performance of the character. *Bee Movie* creatively scores King's voice to the actions and activities of Bee Larry King in ways that diverge from his other vocal performance in *Shrek 2* and *Shrek the Third* (in which he voices the androgynous Doris the Ugly Stepsister). The attractiveness of anthropomorphic synchresis lies in the porosity of the non-human animated figure, which absorbs numerous aspects of the star (including and beyond their voice). It is the captivating 'hit' between the star's speech and aspects of the character's performance that enables a jolt of recognition in the spectator, and the "mental fusion" of the synchresis is stimulated (Fig. 3.6).

The vocal performances of British musician Sting and American actor Ray Liotta in *Bee Movie*; Joan Rivers and British media entrepreneur Simon Cowell in *Shrek 2*, rock star Steve Tyler in *The Polar Express* and Frank Thomas and Ollie Johnston

(two of Disney's legendary "Nine Old Men" animators) during *The Incredibles* are described by the narrower category of autobiographic synchresis (Fig. 3.7). This is a performance type that maintains the recognisable qualities carried in the voice again without aural corruption, but replicates the star's physiognomy with similar fidelity (thus jettisoning the possibilities of anthropomorphism). In *Fly Me to the Moon*, which tells the story of three insect stowaways smuggled aboard the Apollo 11 spaceflight in July 1969, American astronaut Buzz Aldrin voices a younger, 1960s computer-animated self. Aldrin's vocal performance in *Fly Me to the Moon* is reflective of the emerging area of digitally-mediated performance. Computer graphics have provided new opportunities to complicate the corporeality of film acting, deteriorating the star's body through digital aging, or recreating their youthful appearance using techniques of virtual age regression.[120] Aldrin's heavily aged performance in *Fly Me to the Moon* is significant because it distinguishes the category of autobiographic synchresis from other instances across the genre where there is a desire to accurately replicate the familiarity of a star's face. It is common for those computer-animated films utilising motion-capture—notably *Beowulf*, *A Christmas Carol* and *Mars Needs Moms!*—to faithfully and convincingly recreate the facial characteristics of their ensemble star voice cast. The visual and aural recognisability of these performances are to a degree 'autobiographic.' However, the roles being played are always fictional, thus collapsing their effect into that of the offscreen/onscreen and actor/character binary in live-action cinema. Within the pleasures of autobiographic synchresis, voice actors play themselves, thus confirming a Luxo world as a realm in which entirely fictional characters can and do coexist with real-life celebrities.

Typically brief in screen-time and often self-reflexive in tone, both autobiographic and anthropomorphic synchresis can be united together under the umbrella of the film cameo, as roles of "short but memorable duration," often by an

actor "who is usually a major film star or entertainment figure."[121] But the fleeting presence of a star in the computer-animated film foregrounds the line of critical inquiry that has discriminated against the star voice as nothing more than "celebrity testimonial."[122] The marquee name of a star can certainly prove to be a valuable asset, and used to sell the film on the basis of the star's high-profile involvement. During the opening credits to *Antz*, for example, a magnifying glass meanders over the bright white screen, picking out the name of its extensive cast (including Woody Allen and Gene Hackman) to literally enlarge and expand their presence. *Fly Me to the Moon* even climaxes with the real-life appearance of Aldrin, whose sudden arrival within the diegesis is signalled by his autograph that appears etched across the screen. If the voice, as Roland Barthes has suggested, operates as an "intimate signature of the actor," then Aldrin's verbal statement coupled with his physical presence and 'autographing' of the film's final sequence, authenticates *Fly Me to the Moon* through the credibility of his endorsement.[123] However, it is the art-historical origins of "cameo" that can reposition the star voice beyond the perspective that it is a marketing tool employed as leverage to attract audiences. Cameo is an artistic practice that involves the carving of a human figuration (originally of imperial types or dignitaries) brought into relief through colour contrast, and by raising it above a background plane. Initially carved from gemstones (sardonyx, agate, amethyst and chalcedony) but also shell and glass during the early Roman era, cameos are typically found on jewellery, such as brooches, amulets, medallions or pendants. The cameo's disjuncture between raised decoration, and that which remains on a lower plane, evokes the ways in which animators can illuminate the presence of a star and creatively profile their involvement. The star voice "cameo" of anthropomorphic and autobiographic synchresis is then accented through elements of character design and performance. Through such animated acting, a star's vocal

performance can be shaped into varying degrees of visual prominence, carefully sculpted to enhance its boldness against the film's surface.

The third category of acousmatic synchresis in the computer-animated film relates to an audiovisual arrangement that manipulates the multitude of associations that can be tied to the recognisable star voice. "Acousmatic" is a term originated by Jerome Peignot, and adapted by Chion to describe sound one hears without seeing its source. A director is able to obscure the origin of the voice for the purposes of mystery and intrigue, before "de-acousmatizing" it and divulging its cause later through what Chion calls "visualized" sound.[124] It is a prerequisite of the computer-animated film that the true source of the sound will always remain, to some degree, acousmatic, insofar as a mediating digital surrogate speaks in place of the star. Such disembodiment is foundational to the genre's synchretic logic. Spectators accept speech from that which cannot speak, and perceive the voice as a function of a character devoid of larynx, oesophagus and other biological markers. But the currency of acousmatic synchresis is one of disguise rather than reveal, playing upon the intrinsic separateness of the visible and the audible that synchresis, as Chion argues, would otherwise help the spectator to overcome. Acousmatic synchresis is primarily directed at the star voice and its possessor, engaging with the voice as assignable to the star. It formally postpones the textual meeting between sound and image, prolonging the spectators' process of synchresis until the animated image 'catches up' with the voice. Acousmatic synchresis is, therefore, a device often used to orchestrate the mechanics of the star entrance, employed at the moment at which vocal omnipresence (the unseen star speaker) suddenly emerges as computer-animated presence. The opening sequence of *Cars* can be used to illustrate the terms of acousmatic synchresis with its introduction of American film star Owen Wilson. The actor's South Texan drawl and elongated intonations are heard, seemingly in voiceover narration, against a black screen,

soliciting the spectator to "audio-view" the scene and its scarcity of image. Listening to the star speak without any trace of their image transforms the star voice into an acousmêtre. This is what Chion calls a kind of hidden, mysterious "acting shadow."[125] When Wilson's automobile character Lightning McQueen finally appears—literally out of the darkness of his container—to assume ownership of the star voice, the not-yet-seen enters the field of vision, luxuriant light bathing the sleek contours of the motor vehicle. Formally shaping *Cars* as a star 'vehicle' for Wilson, acousmatic synchresis can also be staged to trouble the star voice's attribution and aggravate how it comes to be anchored within the fictional world (Fig. 3.8). The entrance of Billy Crystal as green, one-eyed monster Mike Wazowski in *Monsters, Inc.* involves a particularly light-hearted act of audio misdirection. As an alarm clock ticks over to "6:05," the spectator believes that Crystal's recognisable voice is emanating from a charming disc-jockey, when a camera pan reveals a monstrous figure to be the true source of the star speech.

Many computer-animated films extend the vocal attributes of its characters and the power of the star voice by opening with voiceover narration.[126] *Puss in Boots*, *Hoodwinked!*, *Megamind*, *The Wild*, *Happily N'Ever After*, *Chicken Little*, *Igor*, *The Croods*, *Tangled*, *How to Train Your Dragon*, *Escape from Planet Earth* (2013), *Epic*, *Wreck-It Ralph*, *Rise of the Guardians* and the *Kung Fu Panda* and *Happy Feet* films all open with this device to (sonically) introduce key characters in a highly personal fashion. Bernard Dick has queried the meaningfulness of the convention, and whether it is merely "an emergency cord the filmmaker pulls when he or she cannot think of another way to begin a movie."[127] In the computer-animated film, however, an opening voiceover narration confirms the primacy of the star voice, intensifying and privileging its familiar materiality. But such films deliberately craft a temporal delay in disclosing the screen speaker, reproducing a kind of Barthesian "fascinated listening" that delights in the spectators' anticipation of the "de-acousmatic" reveal. The introduction of the

characters voiced by actors Shia LeBoeuf in the computer-animated mockumentary *Surf's Up*, and Robin Williams in *Happy Feet*, strongly fit this template. *Surf's Up* has LeBoeuf's character Cody Maverick muttering offscreen, before he enters into the empty frame to provide the speech with a visible speaker. Lovelace, one of the two characters in *Happy Feet* voiced by Williams, is not only the film's omniscient narrator, but a figure whose mythology within the film's fictional world is predicated upon his vocal, rather than visual, qualities. Lovelace even addresses the audience with the line "You've heard the voice. Now you're about to meet the one-and-only Lovelace in the flesh, right here, right on, right now!" Both films thus draw upon the star's recognisable voice to draw out the exposure of their latest screen role (both Rockhopper species of penguin). In the first scenes of *Antz*, spectators similarly hear Woody Allen's identifiable voice and fast-delivered delivery, but are refused a screen source in which to place his speech. There is a notable delay before the vocals are "de-acousmatized," and the prolonged reveal of insect Z as he speaks in Allen's recognisable New York accent amplifies the moment the star voice becomes inserted into its new non-human source.

By hinging upon the recognisability of a star voice, and the fact that many of the genre's characters are first introduced into a computer-animated film through their oral qualities, acousmatic synchresis is more directly implicated in the criticisms levelled at star voice-casting. While the non-celebrity, career voice actor is praised for their vocal manipulation, range and versatility, the star voice has to merely turn up and "sound like him-or-herself to guarantee audience recognition."[128] Computer-animated films adhere to an implicit audiovisual contract that extols the virtues of the star's vocal signature by maintaining its sonic purity. The recognisable traits of the star's voice are rarely disrupted by any kind of aural corruption. Stars in the computer-animated film typically speak as themselves, rather than adopting speech impediments, national inflections or

dialects, unidentifiable twangs and regional accents. There is occasional evidence of this practice. For example, Mike Myer's Scottish brogue in the *Shrek* films; Ian Holm and Frances McDormand's French accents in *Ratatouille* and *Madagascar 3: Europe's Most Wanted*; Steve Carell's Eastern European inflection in *Despicable Me* and Robin William's flamboyant Hispanic lilt as Ramón in *Happy Feet* and *Happy Feet Two*. Chion has argued that "for a single body and a single face on the screen, thanks to synchresis, there are dozens of allowable voices."[129] But stars are expected to sound a certain way (even in the re-dubbed foreign versions), and computer-animated films traditionally maintain the acoustic potency and purity of the star's idiosyncratic voice as part of its audio repertoire. John Lasseter states that at Pixar, "We very seldom ask people to put on voices. We want people to be themselves, so their dialogue has a really natural, believable quality."[130] Such preservation of the star voice is not just a concern of character authenticity, but maintains the authenticity of the star and the impact of their vocal purity.

By preserving the familiar experience of the star for the spectator, and staying loyal to this particular performance sign, the computer-animated film has reprised something of a Classical Hollywood sensibility. During the establishment of the American studio system and the arrival of synchronised sound, the "primary enticement" for audiences was, as Donald Crafton suggests, "hearing a star's voice for the first time."[131] Indeed, early narrative cinema invoked the trope of ventriloquism as a "textualized response" to the momentous coming of sound, as demonstrated by the puppet storylines of James Cruze's *The Great Gabbo* (1929) and *The Unholy Three* (1930) directed by Jack Conway.[132] The critical reception of early sound film was likewise sympathetic to the 'ventriloquial' aspects of cinema's seismic industrial shift. According to Robert Spadoni, critics "compared watching a sound film to watching a bad ventriloquist's act."[133] Scholars such as Rick Altman have since used ventriloquism

as a metaphor for all film's sound/image relations.[134] But if the sudden vocalization of muted human figures in silent film was narrativised by the films themselves, then computer-animated films have used acousmatic synchresis to acknowledge the "audiovisual chicanery" involved when the star voice is relocated.[135] Just as ventriloquism is itself "illusion without deception," the computer-animated film exploits, rather, than resists the fundamentally ventriloquistic identity of its audiovisual construction by delighting in the recognisable star voice's animated reassignment.[136] Acousmatic synchresis maintains its allure through the (delayed) creation of new synch points of sound and image, marking the union of visual and aural events in unexpected and never-before-seen creative synchrony. Unlike the reveal of the Wizard in *The Wizard of Oz* (1939), the aura of the voice does not crumble due to its demystification and "de-acousmatizing" disclosure. Rather, acousmatic synchresis hinges upon the fascinating moment in a computer-animated film at which spectators, to borrow Walter Murch's phrasing, witness "old friends dressed up in new clothes."[137]

Acousmatic synchresis therefore underlies what is fundamentally enjoyable, engaging and "irresistible" about star voice casting in computer-animated films. By prolonging the disclosure of the reconstituted star speaking in a computer-animated film for the first time, their narratives exploit the star voice within "the opportunities provided by thinking with our ears."[138] The creative scoring of the star voice to puppet performer in the computer-animated film, and the multiple "fits" between star persona and screen performance that can be achieved, solicits spectators' curiosity about the cinematic bodies that speak in a voice they (may) know. Computer-animated films stoke the spectatorial game of speculation and deciphering undertaken by viewers who decode a vocal performance as the product of a star (that sounds like, that could be) and try to award the voice a real-life origin. The manner in which the star voice is "actualized," and the multiple gradations that govern how it is given textual definition, situate the star

voice as a significant part of the anatomy of the computer-animated film's puppets. Star speech is placed in certain audiovisual configurations that reflect the intersection of animation (visible) with (audible) as they creatively 'hit' one another. But it is not just the star voice that dominates the genre's heterogeneous vocal range. Gianluca Sergi has recently suggested that "it is safe to say that, in Hollywood cinema, dialogue intelligibility is still 'the rule' overseeing the construction of a soundtrack."[139] The computer-animated film, however, prizes the instinctive—and often incoherent—vocalisations made by authentic child performers. The remainder of this chapter examines the syllabic stress patterns and oratory traits of a child's vocal performance within computer-animated film voice work, and the value the genre places upon the sonic shapes of their childish intonation.

Emotion capture: vocal performances by children

> *I can still hear her little voice.*
> ----- James P. "Sulley" Sullivan, *Monsters, Inc.*

From Walt Disney and Hanna-Barbera to *King of the Hill* (1997-2010) and *The Simpsons*, the orthodox practice among feature-length cel-animated cartoons and television animation in America has been to cast adults in the vocal roles of children. The child labour laws in the U.S. governing juvenile voiceover work, the physical stresses and strains that long hours can place on the child actor's voice, and the fact that children's voices change and mature as they grow, have all been factors regulating this practice. As Robin Beauchamp explains, "if the role is extended over time, a child's voice will mature while the animated character will remain fixed in time. For this reason (and many others), adults are typically cast for children's roles in episodic animation."[140] The often atemporal seriality of television animation acts as a reminder of the discrepancy between the age*ing* vocal performer and the frequently age*less* animated child. With little fear that their beauty will wither, animated children remain timeless inside a graphic vacuum compared to the development of the child performers (and their voices) as they traverse adolescence towards adulthood. Nancy Cartwright, the voice of juvenile delinquent Bart Simpson for over twenty years, affirms that had *The Simpsons* creators hired a real ten-year-old boy in the role of Bart "he would have lost his job a long time ago."[141]

Computer-animated films have plotted a new trajectory for this convention of juvenile performance and the child's voice that has come to dominate both television and feature-length cel-animated cartoons. Whether the child character is that of a human or a non-human anthropomorphic figuration made 'childlike,' animators have developed the child's voice by deliberately casting children to play children. While observing child labour laws, computer-animated films uniquely foreground what Roland Barthes termed

in the 1970s as the unique "grain" of the (child's) voice, spotlighting the pleasures of a captured child performance and deliberately accentuating how the child character's screen voice is authentically *made* by a child.[142] By examining the meaningless and spontaneous vocalizations of the aptly-named human child 'Boo' from *Monsters, Inc.*, this chapter examines how computer-animated films celebrate childhood by emphasising the verbal mannerisms and vicissitudes of the unprompted child actor. *Monsters, Inc.* preserves the unique vocal capabilities of four year old non-actor Mary Gibbs as Boo, framing her performance in a narrative that animates the powers held within the voices of children. By jettisoning the more widespread adults-as-children casting tradition, computer-animated films present new ways of conceptualising the relationship between animation and child performance. The calculated fit between the digital children onscreen and the authentic rhythms of their unrefined speech expresses an active engagement with the pleasures of simply 'being young,' rather than any privileging of 'growing up.'

The pattern of casting adults-as-children is subject to, and ultimately reflective of, the child labour laws that currently operate across America. California has the most stringent laws protecting and governing the work of child actors—due to the majority of entertainment production that takes place there—that relate to occupational health and safety legislation, as well as enforcing the primacy of education.[143] Currently, children under thirteen can only be employed during the school holidays, while even fifteen-year-olds are permitted to work just three hours outside of school time per day. Accommodating the welfare of the juvenile performer therefore impacts on their availability as voiceover artists. Similar industrial stipulations have also affected child voiceover in the animation of other national cinemas. Jonathan Clements and Helen McCarthy have identified how child actors remain "rare in anime voice work," as many voice recording facilities in Japan must "run around the clock in order to get the best

returns from their investment in expensive machinery."[144] Children's involvement in anime voiceover is typically restricted to movie productions, which require fewer hours in the recording booth than those of long running television series.

Managing the exploitation, and preserving the safety, of child performers is an imperative of animated production. But enforcing the appropriate legislation does not prevent another type of risk, that which involves the unpredictability and uncertainty of the recorded performance itself. The wisdom of W.C. Fields' oft-cited adage "never work with animals or children" is particularly pertinent because of the skills required of an animated voiceover artist. As Karen Lury explains, hiring child actors "increase[s] the possibility" that "they will do something unexpected and things will go 'wrong'."[145] The amount of dialogue to work through, the ability to take direction and the sustaining of appropriate accents, pitch, tone and inflection, are all strains placed upon, and amplified by, the supposedly risky casting of children. Finding children able to work under intense scrutiny is, according to animator Amy Steinberg, "no small feat," and she argues that it is difficult for children to "understand the voice-over process, and how tedious and demanding it can be."[146]

Each of these conditions of animated production has arguably contributed to the casting of adults-as-children. Numerous U.S. animated series such as *The Jetsons* (1962–3, and again from 1985–7), *The Little Rascals* (1982-4), *Rugrats* (1991-2004), *Futurama*, *Family Guy*, *The Wild Thornberrys* (1998-2004), *The Boondocks* (2005-) and, more recently, *Ben 10* (2005-), *American Dad!* (2005-) and *The Cleveland Show* (2009-) have all notably followed this prototype of casting. In the Nickelodeon (and later Disney) television series *Brand Spanking New! Doug* (1991-9), the eponymous title character was played by two adult actors—renowned American voiceover artists Billy West and Tom McHugh—despite Doug himself remaining at eleven-and-a-half years of age. There is further evidence of the practice of casting adults-as-children in

feature-length cel-animated cartoons, albeit in a less concentrated and expansive form (as befits their less-demanding production conditions). While this practice might be understandable in the industrial conditions of a long-running television cartoon format, it is perhaps surprising that the (naturally) shorter production time of feature-length animations seems to have had little impact. Following some early interest in child's voices in *Bambi* and *Alice in Wonderland* (1951), the Disney studio has been sporadic in its use of child performers, and it began to lean towards adults-as-children in *Peter Pan*, *The Sword in the Stone* and *The Many Adventures of Winnie the Pooh* (1977) as well as more recent productions such as *Aladdin*, *Pocahontas* (1995) and *Mulan* (1998). The renewed success of the studio's musical format in their post-1989 "Second Golden Age" renaissance has also created a discrepancy between singing and spoken voices, thereby introducing a new aspect to the voicing of animated children.[147] In *Mulan*, the eponymous sixteen-year-old Chinese warrior's speaking voice was provided by thirty-five-year old Macau-born actress Ming-Na, and her singing voice by twenty-seven-year-old Filipina singer Lea Salonga-Chien. The vocally challenging facets of animated voiceover (including the demanding element of singing), combined with specific labour laws and the inevitable maturing of the child's voice over time, have thus presented adults as an altogether more practical and economic alternative to child actors.

Employing adult voice actors as younger children naturally raises some fairly significant questions about the nature of the voice—specifically conceptions of juvenile performance—in the field of animation. The adults-as-children blueprint reverses the more conventional practice of live-action cinema in which "adult actors rarely get to play children."[148] Given the frequency with which animators have turned to adults when casting for child roles, it is possible to suggest that in animation, by contrast, *child* actors rarely get to play *children*. Rather, child performance has its roots in the versatility and dexterity of an adult's vocal range. The adult voiceover artist's

regression into a childlike mode of address also holds the potential to associate child performance in animation not just with ambiguity, but with a compelling androgyny too. Voiceover artists such as Mae Questel in the 1930s, Jean Vander Pyl in the 1960s, and contemporary artists such as Cartwright, Russi Taylor, Tress MacNeille, Elizabeth Daily, Christine Cavanaugh and Pamela Adlon, not only cross generational divides in their voiceover work, but also those of gender. Adlon voices the overweight twelve-year-old teenager Bobby Hill in *King of the Hill*, while the majority of the male schoolchildren who attend Springfield Elementary in *The Simpsons* are voiced by women, including Nelson Muntz and Ralph Wiggum (Cartwright), Martin Prince (Taylor) and Millhouse van Houten (Pamela Hayden). These actors constitute part of a broader trend in animated voicework, particularly on television, for females to assume the roles of younger male characters. Cross-gender performances of this nature are, by comparison, altogether rarer in computer-animated films. In *A Bug's Life*, the presumed sex of the ladybird Francis is altered from female to male, and so the character's voice, provided by American actor and stand-up comedian Denis Leary, becomes naturalised by the deliberate switch in gender. In fact, the misapprehension that Francis is a genuine *lady*-bird is often the source of his aggression and short temper ("So, being a ladybug automatically makes me a girl. Is that it, fly boy?"). But in comically crafting Francis as a male, and despite having him perform a convincing drag act for the watching ant colony, *A Bug's Life* always ensures that Leary's voice remains reconciled with an animated image of the same sex.

Any potential androgyny embodied within animated characters may ultimately operate *only* at the extratextual level, as a discourse informed by "making of" and "behind the scenes" featurettes which have become a prerequisite of film's post-cinema, commercial afterlife. It is not a requirement of the fiction to declare upfront its workings for comic or dramatic purposes, though it could opt to do so for any number of

provocative reasons. Spectators might therefore remain oblivious to the character's intersexuality, seduced by the aural capabilities of the vocal performer and ultimately unsuspecting of the gender boundaries routinely being crossed. The publication of Cartwright's autobiography *My Life as a 10-Year-Old-Boy* in 2000 (and her subsequent one-woman show based on the book) nonetheless suggests an apparent fascination, both inside and outside the industry, with the animated child's curiously hermaphroditic identity. What is striking in these instances, however, is not that the animated child lacks a definitive gender or age. Rather, it is how child performance in animation is reconstructed as a curiously complex space *between* genders and ages through cross-gender, cross-generational vocal casting. Bart's well-established rebellion and continued mutiny against authority within the televisual world of *The Simpsons* ("Eat my shorts" and "Don't have a cow, man"! being his favoured phrases) might therefore stand for animation's wider rejection of vocal norms. Through its fundamental sound/image relations, animation permits body-swapping acts of transgender with minimal exertion, *allowing* adults of either sex or age to play male or female children. In the complex hybrid figure of Bart Simpson, "an ordinary looking, all-American mother" is placed, through the voice, inside the body of a rebellious, dysfunctional male pre-teen.[149] The child star of animation is thus a hollow prosthesis which can be gendered and aged with little regard for the vocal source, and the adult performer is able to instantaneously reorient their identity to engineer a child performance.

Computer-animated films break new ground within these traditions of animated voiceover by replacing the adult vocal performer, whose regression into childlike speech patterns and inflection is achieved entirely through tonal flexibility and skill, with a multitude of (often) untrained and inexperienced child voice artists. The youthful computer-animated characters they voice depart from the cross-gender and cross-generational template established in traditional cel-animation. By habitually casting

children to play their child characters, computer-animated films have crafted a screen space in which these young performers are able to actively and organically speak, stumble, mispronounce, splutter and cough whilst at all times staying true to their intrinsic "childishness." The verbal expressiveness that is held within these young voices is subsequently presented in a variety of arresting ways to an audience who, with every utterance made by the child character onscreen, are invited to read and reflect upon the nuances of a genuine child performance that is being communicated.

The child voice artists working in recent computer-animated films represent the emergence of an exciting new wave in voicing practice. They stretch from more familiar teen performers, including renowned pop stars like Hilary Duff (*In Search of Santa* (2001)), Avril Lavigne (*Over the Hedge*), Miley Cyrus (*Bolt*), Taylor Swift (*The Lorax*), and Selena Gomez (*Everyone's Hero*, *Horton Hears a Who!* and *Hotel Transylvania*) to non-professional non-actors (frequently relatives of the production staff) performing in their first, and sometimes only, screen roles. In *Rio*, the director's daughter Sofia Scarpa Saldanha voices protagonist Linda Gunderson as a child, while in her role as Young Ellie, Elizabeth Docter was directed by her father Pete in *Up*. In some instances, offspring of the main vocal star have been used in minor speaking roles, either in conjunction with their more famous parents, or as younger versions of the same character. Seven-year-old Quinn Stiller has acted alongside his father, American actor Ben Stiller, in *Megamind*, a film in which another of Stiller's children, ten-year-old Ella, also appears. For a flashback sequence in *Madagascar: Escape 2 Africa*, Quinn Stiller also plays the infant incarnation of Alex the Lion, a character who is otherwise voiced by his more famous real-life parent. In *Ice Age: Continental Drift*, Ally Romano (the daughter of the film's main vocal star Ray Romano) voices a popular teenage woolly mammoth named Meghan. This continues the tradition established across the *Ice Age* franchise of having Romano's own children provide vocal performances for its

younger characters. Numerous computer-animated films testify to this notable campaign of casting such unknown or inexperienced child performers in the vocal roles of children. Daryl Sabara (*The Polar Express*), Spencer Fox (*The Incredibles*), Jordan Fry and Michael Josten (*Meet the Robinsons*), Freddie Benedict (*Planet 51*), Trevor Gagnon (*Fly Me to the Moon*), Jordan Nagai (*Up*), Jay Baruchel (*How To Train Your Dragon*), Emily Hahn and Beatrice Miller (*Toy Story 3*), and Seth Dusky (*Mars Needs Moms!*) are just some of the child actors cast to play human children with little to no acting experience.

A key distinction to make among computer-animated films, however, is that humans are not the only juveniles populating their fictional worlds. In fact, they are often in the minority, marginalised by a variety of non-human anthropomorphs that frequently supplant them as protagonists. According to Lury, "the child as 'thing' has a history in numerous stories and films where the child is, or becomes, a doll, puppet or robot."[150] According to their strong anthropomorphic thrust, computer-animated films consistently dramatise this "child-as-object" tradition by transferring the child's voice onto a variety of non-human figures. Born in 1997, child performer Shane Baumel has played both a child ant in *The Ant Bully* and a young porcupine in *Over the Hedge*. At the age of eight, Alexander Gould voiced the eponymous clownfish in *Finding Nemo*, whilst a variety of younger unknown actors were cast as Nemo's school friends. The opening line of *Finding Nemo* immediately establishes the formal importance of such authentic voiceover. Shouting excitedly at his father Marlin that today is the "first day of school...oh boy," Nemo's "childish" dialogue (captured by Gould) is implicated in a narrative context that takes as its subject matter a particular milestone in a child's development.

In the more recent example of the Peas-in-a-Pod from *Toy Story 3*, the "grain" of the child's voice assumes a key role in the immediate coding of the toy as one of these

non-human children. Gender*less* when mute and impassive, the Peas-in-a-Pod are brought to life through the voice casting of three unknown child actors: Charlie Bright (Peatey), Amber Kroner (Peatrice) and Brianna Maiwand (Peanelope). The voice of the children *as made by children* fits closely with the specific design of the toy, making it conducive to this type of child casting. Based on the "Vegimals" series of stuffed toys that were manufactured in the 1970s, these toys/characters comically reprise the sixteenth century maxim "like two peas in a pod" (Fig. 3.9). Proximity, similarity and conflict are each manifest in the sibling rivalry between the young children, who argue, complain and attempt to outdo one another. The child voice reflects their sheltered existence, development and growth. Their confined, protected state in the pod suggests that like young children held captive in a playpen, they are permitted to observe, rather than participate, in the events around them. *Toy Story 3* therefore mediates the nuances of the vocal track through a non-human object, one which is incapable of speech in the "real" world of the cinema auditorium. As Chion suggests of the human voice, "the ear is inevitably carried toward it, picking it out, and structuring the perception of the whole around it."[151] While animation may always mask the actor's appearance for the spectator, the "grain" of the child's voice can nonetheless be "picked out" precisely because it emanates from such an unusual (anthropomorphic) source. Equally, the diverse kinds of virtual bodies that can emit the voice are reciprocally contextualised by the unique aural characteristics of the childish "grain." In perceiving the novelty of a non-human speaker, the spectator's ear is ultimately drawn to a child's voice as it becomes magnified by the anthropomorph onscreen.

Many other computer-animated films have mobilised the child's voice, whether spoken by human or non-human characters, within narratives that appear specially shaped to fit the contours of their exceptional vocal qualities. *Cloudy with a Chance of Meatballs* opens in flashback inside a school classroom, and a "show and tell"

presentation by young inventor Flint Lockwood. Unveiling his "Spray-On Shoes" science project, Max Neuwirth's voice as the young Lockwood provides the sequence with its soundtrack: his stuttering, nervy commentary a counterpoint to the remarkable sophistication, but ultimate failure, of his scientific invention. The authentic voices of children are also ensconced into the narratives of both *Meet the Robinsons* and *Despicable Me*, attaining greater impact through each film's treatment of the emotional plight of young orphans. A brief scene from *Despicable Me* illuminates how the film directs the spectator towards, and crafts a space for, the "materiality of the body speaking its mother tongue."[152] Following her ritual bedtime prayer that "someone will adopt them soon," the youngest orphan Agnes (voiced by seven-year-old Elsie Fisher) playfully sings herself to sleep, much to the annoyance of her two sisters Edith and Margo, also voiced by child actors Dana Gaier and Miranda Cosgrove. Agnes' undetectable oral expressions, indecipherable utterances and meandering vocalizations are permitted to echo in the otherwise silent bedroom of the orphanage, whilst her verbal childishness and playfulness only enhances the poignancy of this short but significant scene. Certainly the most unusual and unexpected application of children's voices in computer-animated films, however, occurs in *Wall-E*. To make the robot protagonists Wall-E and EVE read for the spectator as emotionally resonant, the film's sound designer Ben Burtt, who lent his own voice to Wall-E, based their electronic language on the intonation of young children, to make them sound "like a toddler...'Oh,' 'Hm?,' 'Huh!,' you know? This sort of thing."[153] Although the mechanized robots are of an indeterminate and unexplained age, Burtt's role in creating Wall-E's voice, alongside Elissa Knight's performance as EVE (modified by Burtt), resulted in a compelling and unusual instance of computer-animated childishness.

Yet it is within an earlier computer-animated film that the unrefined speech patterns and "materiality" of a young child's voice are most explicitly and persistently

revalued. The narrative of *Monsters, Inc.* is framed entirely around the voices of children, from the screams converted to energy that power the city of Monstropolis, to the traditional happy ending conclusion in which children are now plundered for laughter that is, according to protagonist James P. "Sulley" Sullivan, "ten times more powerful" than screams. This power contained within the child's voice (the narrative refuses to acknowledge the impact of *adult* screams or laughter) immediately indicates how central a role the child's voice will play within the film's aural register. The power of the child's voice is particularly conveyed by *Monsters, Inc.*'s main human character, a two-year-old infant affectionately named Boo by Sulley, her name derived from her signature vocal expression. Whereas the other (often anonymous) children's screams are instantly preserved in canisters ready for industrial use, the energy emitted by Boo's verbalisations manifests externally and dramatically. The screams, cries and whimpers that emanate from her like an electrical current, cause lights to flicker, bulbs to blow and a surge of power across the entire city of Monstropolis.

The casting of Mary Gibbs, the daughter of Pixar story artist Rob Gibbs, as Boo certainly epitomises the new engagement with authentic child performance in computer-animated films. Initially intended to provide only a provisional voice track to layer over the rough story reels, Gibbs' voice was retained when Boo's age was changed from six to four years during pre-production. According to the character's lead animator Dave Devan:

> Mary's performance really inspired us. The quality of her voice is great and was lots of fun to work with. She was really playful and gave the character exactly what was needed.[154]

The "quality" of Gibbs' voice, as described here by Devan, suggests some of the material properties of vocal grain, pointing towards the intrinsic power held within her voice which has at its core the materiality and embodiment of the speaker. The specific tonal qualities of Boo's voice can be defined in terms of what studies of child language

have labelled as infant "babbling." The phonological capacity of young children has been well-debated by linguists and psycholinguists since the 1940s, particularly in relation to the discontinuity between early babbling and the subsequent formation of pronounced speech.[155] While writers such as Roman Jakobson have suggested that babbling had little to do with the onset of later linguistic systems and was merely symptomatic of "purposeless tongue delirium," subsequent commentators have strongly refuted Jakobson's claims, and championed the presence of ambient language even in the babbling states of language acquisition and experimentation.[156] Conducted over the last three decades, this research has specified the ordered pattern in which language in children progresses: a process which can help to age the voices of a variety of child performers. Following a pre-linguistic stage which has been labelled by linguists "canonical babbling," children adopt intonational structures called "jargon babbling" towards the end of their first year, which refers to vocalizations and utterances "that resemble highly adult speech in at least certain characteristics."[157] The phonetic and acoustic arrangements of these early vocalizations are coupled with tendencies towards imitation and mimicry, as the child explores their larynx through imitative processes that test out its capabilities. As Steven Pinker puts it, "the infant is like a person who has been given a complicated piece of audio equipment bristling with unlabeled knobs and switches but missing the instruction manual."[158] The child's creation of its own personalised "instruction manual" through investigational babbling is a formative exercise in which they discover the grain's phonology and sonicity for themselves.

Gibbs' performance in *Monsters, Inc.*, recorded at the time when she was only two-and-a-half years old, is framed by these dual concepts of "jargon babbling," and by the trialling of her own vocal articulators. Boo playfully picks up numerous words and individual phrases uttered within the fiction, incessantly repeating "Mike Wazowski" and "Kitty" (her self-originated nickname for Sulley) to accompany her cacophony of

squeals, shrieks, laughs and cries. These utterances were central to the subsequent release of the tie-in "Babblin' Boo" toy doll that gurgled, sang and mumbled lines from the original film. Gibbs' own phonological units and utterances suggest a tentative form of lexical development, as she is shown to familiarise herself with the monster world through repetition and imitation. Consisting of only three complete words, Boo's speech is paramount to the films' expression of youthfulness. *Monsters, Inc.*'s director Pete Docter explains that Gibbs was "a *real* little kid who's sort of on the cusp of language, and we just used that gibberish sound."[159] The in-between state of Boo's language asserts a different kind of voice repertoire within the context of child performance in animation, crafted according to aural mispronunciation and authentic crudities which confirm its source as that of a "real" child. In fact, as Docter continues when discussing the tentative efforts by the animators to create their own version of a childish voice during pre-production, "it really took you out of the film to have an adult doing a kid's voice."[160]

It is certainly not uncommon for animated film and television to mobilise an entirely contrived child performance founded upon the corruption of the character's identity through an incongruous and highly comical vocal track. Rather than craft a juvenile performance that approximates to a younger speech pattern, animation affords the opportunity to confront directly, and take advantage of, the casting of adults-as-children through an explicit rejection of aural naturalism. Best remembered in this spirit are the performances of two well-known animated children: Baby Herman, the three-year-old juvenile star of the live-action/animated hybrid *Who Framed Roger Rabbit* (1988), and the one-year-old Stewie Griffin from the Fox television series *Family Guy*. Each of these child characters negotiates between a pre-pubescent aesthetic and the erotic impulses of an adult, raising onscreen tensions between innocence and experience that is consciously avoided in computer-animated films like *Monsters, Inc.* As Herman

himself concedes angrily at one moment, "the problem is I got a fifty-year-old lust and a three-year-old dinky." Herman's infant physiognomy and juvenile identity are offset against a violent, cigar-smoking and foul-mouthed persona. Any notion of child performance is eclipsed and corrupted (deliberately so) by the voice casting of gruff American actor Lou Hirsch, whose determining identity subsumes Herman into a performance akin to that of a middle-aged man.

Provided by *Family Guy* series creator Seth MacFarlane, the foppish English accent of Stewie—based on British actor Rex Harrison's performance in *My Fair Lady* (1964)—is used to define his character as an unusually refined specimen. Stewie is more eloquent, fluent, legible, verbose, coherent and wordly than the adults who share his animated screen. Concealed behind the character of a child prodigy holding a violent obsession with matricide, Stewie's helplessness as a true child only sporadically manifests. Unlike Boo, whose identity as a curious and naive child is never contaminated, Stewie is predominantly defined through his adultness: elaborate scientific inventions, murderous propensities and advanced vocabulary. More contentious is the flaunting of Stewie's bisexual tendencies, with certain episodes even depicting him indulging in cross-dressing fantasies ("We Love You, Conrad" and "Go Stewie Go"). There is evidence of similar gender-bending strategies at work across both *The Simpsons* and *South Park*, as the animated children (again voiced by adults) frequently indulge in gender-swapping, but also foul-mouthed tirades and masochism that sits uneasily with the supposed innocence of a child.

The dramatic re-appropriation of childhood identity by a range of animated films and television programmes recalls certain theatrical practices of Elizabethan England in which, as Jane O'Connor points out, "young boys played the parts of women and sometimes old men, as well as children, in Shakespearean plays."[161] But where Elizabethan theatre was criticised by Puritans "scandalized by the sight of young boys

cross-dressing as much older women," animation often textually organises child performance, and chooses to emphasise a maturity that goes beyond their true screen age. However far animators go in drawing attention to these internal conflicts, the juvenile performances made by adults-as-children also align with Lury's description of the performance style often required of child stars, such as Shirley Temple's in *Baby Burlesks* (1932-3), a series of eight one-reel-films satirising the film industry. Lury writes "The children are not playing 'children', and what is prized, flaunted and controlled is not their childishness but their littleness and their ability to simulate white adult behaviour."[162] In her 1988 autobiography, Temple herself described her experience on *Baby Burlesks* as "a cynical exploitation of our childish innocence."[163] The uneasy organisation of children into performance during studio-era Hollywood reprises the working relationship between animator and animated figuration, puppeteer and puppet. Lury recognises a similar quality in the unnatural manipulation of the child actor's body, which at its most crude and exploitative can evoke "the animation of a body without agency."[164] While this lack of activity may apply to the age*less* animated child fixed in screen time, it also pertains to a treatment of child performance that is open to sustained reconfiguration and adjustment. By having animated children, such as Baby Herman and Stewie, "acting, dancing, talking – in a manner that they are not meant to be able to do," their status as child-as-object is exposed and exhibited. The result is what Lury calls a "fascinating and disturbing (freaky)" construction of child performance, not only because the animation process is itself uncanny in its giving of life to the inanimate, but because the child's performance onscreen is marked by a fundamental strangeness.[165] But the fascination and freakiness of child performance in animation not only resides at this textual level, but infiltrates the extradiegetic voiceover as it is performed and executed. The very idea of an adult performing as a child is fundamentally freaky and troubling as, like Temple's performances in the 1930s and

1940s, the boundaries between adult and child become increasingly fluid. As a dubbed effigy into which life can be breathed by an adult through ventriloquism, the animated child (as object, rather than subject) is frequently predicated on an identity that they never truly have in the real world, as they are always informed by an adult's recreation of childhood. Framed in this way, the concept of child performance in animation both in cinema and on television, from production to reception, can be highly complex, and often anything but wholly juvenile.

Where computer-animated films, and in particular *Monsters, Inc.*, mark new territory for the practice of child performance in animation is through the omission of the freaky and disturbing recreations of childishness. Opting to "capture" the child performance, rather than having it vocally crafted by adults, this deviation in itself "closes off" the vocal freedom with which adults can (and have) produced humorous voices and accents for child characters. Invested in the mechanisms of childhood, computer-animated films offer a different set of pleasures, pleasures that are constructed around the ownership of the voice and the breathy intonations of an authentic child performer. What is being "prized, flaunted and controlled" is no longer merely their status as small people, but a new element of childishness achieved through the meaningfulness of the vocal track.[166] *Monsters, Inc.* repeatedly returns to the meaningful purity and lack of clarity in Boo's voice and her unrefined babbling. The film celebrates her imperfect enunciations and sporadic high-pitched repetition of dialogue in a manner reminiscent of the unscripted interaction between adults and children. Such interaction was first popularised by the "Kids Say the Darndest Things" segment on Art Linkletter's radio programme *House Party* (1945-67), and later the U.S. television series *Kids Say the Darndest Things* (1998-2000) and the British equivalent *Kids Say the Funniest Things* (1998-2000).[167] While the monsters' engagement with Boo does not celebrate the curious wisdom of children in such a clear-cut manner, the

playful fallibility of Boo's language and her "jargon babbling" recreates the unscripted and unrehearsed interaction between adults and children that has so often been the source of comedy.

Monsters, Inc. utilises Boo's "jargon babbling" (and her broader inability to formulate complete, coherent sentences) to define her character, and it is this connection between the audio and the visual that enables the film to develop Boo's voice to aurally track her location. This is especially resonant in a narrative that sources comedy from the monsters' reluctance to touch children on account of their supposed toxicity, and their consequent reliance upon their other senses. When Boo is first discovered by Sulley twenty minutes into the film, having wandered through the portals separating the human and monster worlds, the playful noises she emits draw attention to her location and mark her entrance into the fiction. Boo therefore exists as a specific set of sounds before she is raised into any existence as a computer-animated image. The oratory traits define her character from the outset, functioning throughout as a narrative shorthand. Later, when Sulley and Mike attempt to smuggle Boo into the Monsters, Inc. HQ by dressing her in a synthetic monster costume, it is Boo's compelling and engaging speech patterns that provide a clue as to her true human identity. Here, the veiling of Boo as momentarily monstrous reflects the masking of Gibbs within a virtual body. While her computer-animated visage is created from scratch, Gibbs' captured vocal track remains intact. The qualities carried in the voice are maintained, even while the camouflage that cloaks her humanity is altered onscreen from human to non-human. It becomes clear, then, that Gibbs' voice plays a clear structuring role, organising the virtual space in a manner akin to Mary Ann Doane's description of how sounds function from the perspective of a child. Doane argues that for children, space is traced along the "axis of sound," as the voice of the mother and of the father (sound rather than the language) exists as the "instrument of demand." In comparison to restrictive sight or

look, Boo's voice and signature babbling echo along corridors and the Scare Floor, affirming a capacity to be heard "around corners, through walls."[168] This is most evident during the mischievous hide-and-seek sequence in the bathrooms of Monsters, Inc. HQ. Boo's vocal freedom matches her playful energy and obliviousness as she innocently staggers through their world, her organic but unsteady movements strikingly indicative of a child who has only recently learned to walk (Fig. 3.10).

It is the final shot of *Monsters, Inc.*, however, which dramatically marks the child's voice in terms of its influence upon the virtual space. Following Boo's incarceration back in the human world and her emotional separation from Sulley, the film's epilogue is ostensibly the reunion of human child and monstrous surrogate parent (Boo's human parents remain unseen). The impact of the moment is paradoxically rooted in the drama of their non-meeting, insofar as Boo is only *heard* rather than *seen*. As Sulley tentatively peers into Boo's room whispering her name, his attention is caught by the familiar sound of Boo as she exclaims "Kitty!" one last time. By refusing to cut to Boo as she speaks, her union with Sulley is thus strongly played out along the "axis of sound," rather than through any kind of physical contact. Boo's absence spotlights the language of a child, which pierces the visible from an undetermined offscreen space, all the while anchoring Boo again in terms of her aural rhythms. Robert Velarde identifies this moment in the film as the expression of the "joyful voice of a human child," and it is clear from the focus on Sulley's reaction that the youthfulness of Boo's voice fills him with similar gratification.[169] Indeed, despite the spectator being consciously positioned in the gulf between two speakers and, thus, between competing sounds, the focus remains on Sulley's reaction. If Sulley's first response to Boo was histrionic and sensational (expressively gurning his face and contorting his large physique in horror at this supposedly toxic child), he now beams with pleasure as the film fades to black. Without any closing shot of Boo, Sulley (like the spectator) is

essentially reacting only to the material assets of the human voice, that is, the grain to which *Monsters, Inc.* has so often turned. The climax therefore encapsulates the sound/image relations that have run through the entirety of the film: whereas the monsters are consistently classified by *how they look* (as appropriate to their profession as "scarers"), children are defined through the authentic dynamism of *how they sound* (Fig. 3.11).

The spontaneous and energetic vocal performances made by children, which are an expanding feature of computer-animated films, naturally invite several questions as to why they continue to dominate this new era of all-digital filmmaking. It remains highly unusual for adults to voice children, and the adults-as-children performances of Zach Braff in *Chicken Little*, Sarah Vowell in *The Incredibles* and Sarah Silverman in *Wreck-It Ralph* are the exception, rather than the rule. Might the decision to cast children-as-children heighten the capacity of computer-animated films to seduce, compel, charm and engage inasmuch as it manipulates a key problem with child acting, that of acting versus being? A frequent criticism of child performance centres on the charge that the most acclaimed and affective performances by children in film "emerge when they are not acting at all," and they exist as nothing more than "captured actuality."[170] Gibbs' vocal performance, as described in Docter's account of the voice-recording sessions, certainly highlights this troubling quality:

> At first we tried just having her stand in front of a mike; and I would say, 'Act really scared,' or 'Pretend like you're this or that.' And she was like, 'Nyuhh,' not really into it. So what we ended up doing was giving her a lot of sugar and following her around with a boom mike, recording whatever she did naturally.[171]

The fruitless attempts made by Mike and Sulley to detain Boo, following her voice through and across Monstropolis (and, in the film's visceral climax, through a series of doors), playfully animates the methods by which Gibbs' organic vocal performance was originally captured. Yet if there is evidence of the patience and persistence required to

capture a lead performance from a particularly young child, this is tempered by the knowledge that Gibbs was effectively "artificially sweetened" to elicit a specific kind of energy. The disclosure of how Gibbs' organic vocal performance was directed draws attention to the blurred lines and compelling uncertainty between consciously acting and passively being.

The technological mediation of the voice track is also an important element of computer-animated film production. Gibbs' vocal track, which was cut together from her sporadic vocalizations and impromptu babbling to create one long audible stream, would seem to discredit any claims of authentic acting. However, the captured vocal performances of children-as-children in computer-animated films may problematise, and render altogether more fluid, some of the previous distinctions between child acting and being. The child performer's authentic being (as manifest in their voice) is recombined and recontextualised into a vocal performance that relies precisely on the force of the being itself. Initially delivered without the burden of meaning, it is the naturalistic actuality of an unfamiliar and untrained voice that remains central to the impact of *Monsters, Inc.*, and to the simple authenticity of Boo as a believable juvenile character. Gibbs' performance in *Monsters, Inc.* might be nothing more than "captured actuality," but it is certainly nothing less, and should not be governed by any assumption that she is not acting at all. So, while Gibbs might not be voice acting in a conventional sense, she is nonetheless performing her own childish identity, and is crucially given space by the film to do so.

Despite its mediation, the novelty of Gibbs' captured vocal performance, complete with breathy intonations and unrefined inflection, is left audibly intact. The innate semantic and lyrical structures of her voice are consciously maintained without aural modification, and this purity ruptures the performer's digital costume to remind spectators of the real human source living inside. Rather than create an animated child

star as a hollow prosthesis, which can be gendered and aged accordingly, *Monsters, Inc.* creates a closer ontological proximity between the child performer and the child performance. In computer-animated films, capturing the authentic pitch, timbre and tone of a child's voice has proven more of an attractive proposition to animators than the default tradition in animated film of adults crafting a juvenile vocal performance. Such an emerging fascination in the ownership of the child's voice reflects a further interest in the broader elements of childhood: the mannerisms of speech, the immaturity of language and other phonic tics that become irretrievably lost as the child moves from infancy into adulthood. Here, the uniquely age*less* computer-animated body might help to crystallise and preserve the babbling sounds and other crude or illegible vocalisations made by children. The body incarcerates and holds captive the juvenile vocal performance, protecting it inside its animated shell as part of a resistance to growing up. Within this context of simply being young, and following years of screen silence, it is in the computer-animated film that children are finally being given a voice.

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[1] Todd McCarthy, "Final Fantasy: The Spirits Within," *Variety* 383, no.7 (July 8, 2001): 20.
[2] Donald Crafton, *Shadow of a Mouse* (Berkeley, University of California Press, 2013), 17.
[3] Paul McDonald, "Story and Show: The Basic Contradiction of Film Star Acting," in *Theorizing Film Acting*, ed. Aaron Taylor (London: Routledge, 2012), 171.
[4] Crafton, *Shadow of a Mouse*, xv. For a detailed taxonomy of performativity, see James Loxley, *Performativity* (New York: Routledge, 2007).
[5] Crafton admits that "there isn't much here about computer animation, but not because it isn't performative. It is." Crafton, *Shadow of a Mouse*, xv.
[6] Glenn McQueen quoted in Judy Lieff, "Performance and Acting For Animators," *Animation World Magazine* 4, no. 12 (March 2000), accessed September 25, 2013, http://www.awn.com/mag/issue4.12/4.12pages/lieffacting.php3.
[7] Jan Pinkava quoted in Barbara Robertson, "Meet Geri: The New Face of Animation." *Computer Graphics World* 21, no. 2 (February 1998): 28.
[8] Paul Wells, *Animation: Genre and Authorship* (London: Wallflower, 2002), 23; Stephen Prince, *Digital Visual Effects in Cinema: The Seduction of Reality* (New Jersey: Rutgers University Press, 2012), 110.
[9] These include, but are not limited to, Ed Hooks, *Acting for Animators* (London: Routledge, 2011), Nancy Beiman, *Animated Performance: Bringing Imaginary Animal, Human and Fantasy* (London: Thames & Hudson, 2010), John Kundert-Gibbs and Kristin Kundert-Gibbs, *Action!: Acting Lessons for CG Animators* (Indiana: Wiley Publishing, 2009) and Derek Hayes and Chris Webster, *Acting and Performance for Animation* (Burlington, MA: Focal Press, 2013).
[10] See William C. Taylor and Polly LaBarre, "How Pixar Adds a New School of Thought to Disney," *The New York Times* (January 29, 2006), accessed September 25, 2013, http://www.nytimes.com/2006/01/29/business/yourmoney/29pixar.html?pagewanted=all&_r=0;.
[11] Examples of this practice include Storyboard artist Joe Ranft (Jacques the Shrimp in *Finding Nemo*, Red in *Cars*) and animator Bob Peterson (Roz in *Monsters, Inc.* and Dug in *Up*). Directors have also

voiced computer-animated characters in their own films: Brad Bird (Edna Mode in *The Incredibles*), Conrad Vernon (Gingerbread Man in *Shrek 2*) and Lee Unkrich (Jack-in-the-Box in *Toy Story 3*).
[12] Brad Bird quoted in Crafton, *Shadow of a Mouse*, 15.
[13] Andrew Gordon quoted in Anon., "Animating the incredible: Andrew Gordon on 15 years at Pixar," *CG Creative Bloq* (October 18, 2012), accessed September 25, 2013. http://www.creativebloq.com/animation/andrew-gordon-interview-1012880.
[14] Paul Wells, *Understanding Animation* (London: Routledge, 1998), 104-7.
[15] For example, a special feature contained on the *Wall-E* DVD is titled "Life of a Shot – Deconstructing the Pixar Process."
[16] Andrew Klevan, *Film Performance: From Achievement to Appreciation* (London: Wallflower Press, 2005), 7.
[17] Prince, *Digital Visual Effects in Cinema*, 102.
[18] Alex Clayton, "Performance, With Strings Attached: *Team America*'s Snub to the Actor," in *Film Moments: Criticism, History, Theory*, eds. Tom Brown and James Bennett (London, BFI Publishing, 2010), 127-130.
[19] Frank Proschan, "The Semiotic Study of Puppets, Masks, and Performing Objects," *Semiotica* 47, 1-4: 3-46.
[20] John Bell, *American Puppet Modernism: Essays on the Material World in Performance* (New York: Palgrave, Macmillan, 2008), 2.
[21] Ibid., 5.
[22] See the analysis of "expressive objects" in James Naremore, *Acting in the Cinema* (Los Angeles: University of California Press, 1990), and V.F. Perkins, "Acting on Objects," *The Cine-Files* 4 (Spring 2013), Special Issue on Mise-en-scene, accessed September 25, 2013, http://www.thecine-files.com/current-issue-2/guest-scholars/v-f-perkins/.
[23] Naremore, *Acting in the Cinema*, 88.
[24] Suzanne Buchan, *The Quay Brothers: Into a Metaphysical Playroom* (Minneapolis: University of Minnesota Press, 2011), 104.
[25] Crafton, *Shadow of a Mouse*, xv.
[26] See Carol A. Bernard, "Performing Gender, Performing Romance," in *Galaxy is Rated G: Essays on Children's Science Fiction Film and Television*, eds. R.C. Neighbors and Sandy Rankin (Jefferson, NC: McFarland, 2011), 53-63; Judith Halberstam, *The Queer Art of Failure*, *The Queer Art of Failure* (Durham and London: Duke University Press, 2011).
[27] Sianne Ngai, *Ugly Feelings* (Massachusetts: Harvard University Press, 2005), 99.
[28] Bell, *American Puppet Modernism*, 5.
[29] Steve Tillis, "The Art of Puppetry in the Age of Media Production," *The Drama Review (TDR)* 43, no. 3 (Fall 1999): 184.
[30] Ibid., 189.
[31] The "work of acting" is a useful phrase from Christine Geraghty's examination of stardom and the star image. Christine Geraghty, "Re-examining Stardom: Questions of Texts, Bodies and Performance," in *Reinventing Film Studies*, eds. Christine Gledhill and Linda Williams (London: Arnold, 2000), 183-201.
[32] Wells, *Understanding Animation*, 104.
[33] A.C. Scott, *The Puppet Theatre of Japan* (Rutland, VT: Charles E. Tuttle Company, 1963), 33.
[34] Pamela Robertson Wojcik, "The Sound of Film Acting," *Journal of Film and Video* 58, no. 1-2 (Spring/Summer 2006): 71.
[35] Sean Aita, "Dance of the Übermarionettes: Toward a Contemporary Screen Actor Training," in *Theorizing Film Acting*, 256-270.
[36] Henryk Jurkowski, "Transcodification of the Signs Systems of Puppets," *Semiotica* 47, no. 1-4 (1983): 31.
[37] Paul McPharlin quoted in Steve Tillis, *Towards an Aesthetics of the Puppet: Puppetry as a Theatrical Art* (Westport, CT: Greenwood Press, 1992), 21.
[38] Nora Lee, "Computer Animation Comes of Age," *American Cinematographer* 70, no. 10 (October 1989): 77.
[39] Ngai, *Ugly Feelings*, 374
[40] Bobby Podesta quoted in Melena Ryzik, "Animation Advocacy, Pixar Style," *The New York Times* (February 9, 2011), accessed September 25, 2013, http://www.nytimes.com/2011/02/10/movies/awardsseason/10bagger.html?_r=0.
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[42] J.P. Telotte, *Animating Space: From Mickey to Wall-E* (Kentucky: University Press of Kentucky, 2010), 38; Charles Musser, *Before the Nickelodeon: Edwin S Porter and the Edison Manufacturing Company* (Berkeley: University of California Press, 1991), 331.

[43] Martin Costello, "Stop Motion Puppets in CG," SIGGRAPH 2006, [n.pag], accessed September 25, 2013, http://staffwww.itn.liu.se/~andyn/courses/tncg08/sketches06/sketches/0660-costello.pdf.
[44] Ibid.
[45] Richard Weihe quoted in Buchan, *Into a Metaphysical Playroom*, 104.
[46] Tillis, *Toward an Aesthetics of the Puppet*, 23.
[47] Gordon Cameron, Robert Russ and Adam Woodbury, "Acting with Contact in *Ratatouille* – Cartoon Collision and Response," *Pixar Technical Memo #07-10*, accessed September 25, 2013, http://graphics.pixar.com/library/CartoonCollision/paper.pdf.
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[54] Prell quoted in Robertson, "Meet Geri," 28.
[55] Marek Kochout quoted in Neala Johnston, "Australian animator Marek Kochout packs a punch in *Kung Fu Panda 2*," *Herald Sun* (June 30, 2011), accessed September 25, 2013, http://www.heraldsun.com.au/entertainment/movies/australian-animator-marek-kochout-packs-a-punch-in-kung-fu-panda-2/story-e6frf9h6-1226084643165#content.
[56] A portmanteau of super, marionette and animation, Supermarionation was widely used during the 1960s. The recent 26-episode computer-animated series *Gerry Anderson's New Captain Scarlet* (2005) was named Hypermarionation in rememberance to these prior marionette forms.
[57] The character of Woody was originally a ventriloquist's dummy and not a cowboy.
[58] Jerome Christensen, *America's Corporate Art: The Studio Authorship of Hollywood Motion Pictures* (California: Stanford University Press, 2012), 336.
[59] Ibid., 332.
[60] Such as the recent work by Steve Tillis and John Bell.
[61] Barry King, "Articulating Digital Stardom," in *Theorizing Film Acting*, 278.
[62] See Maureen Furniss, "Motion Capture: An Overview," *Animation Journal* 8, no. 2 (Spring 2000): 68-82; Yacov Freedman, "Is It Real . . . or Is It Motion Capture?: The Battle to Redefine Animation in the Age of Digital Performance," *The Velvet Light Trap* 69 (Spring 2012): 38-49.
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[64] Amy Kaufman, "Seth Green moves, but doesn't speak, in 'Mars Needs Moms'," *Los Angeles Times* (March 8, 2011), accessed September 25, 2013, http://latimesblogs.latimes.com/movies/2011/03/seth-green-mars-needs-moms.html.
[65] See Mark J. P. Wolf, "The Technological Construction of Performance," *Convergence: The International Journal of Research into New Media Technologies* 9, no. 43 (2003): 48-59.
[66] Scott Bukatman, *The Poetics of Slumberland: Animated Spirits and the Animating Spirit* (Berkeley, Los Angeles: University of California Press, 2012), 21.
[67] Ngai, *Ugly Feelings*, 21.
[68] Kenneth Gross, *Puppet: An Essay on Uncanny Life* (Chicago: University of Chicago Press, 2011), 66.
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[70] Anthony Slide, *Hollywood Unknowns: A History of Extras, Bit Players, and Stand-Ins* (Mississippi: University Press of Mississippi, 2012), 3.
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[72] Crafton, *Shadow of a Mouse*, 17-8.
[73] Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2006), 95.

[74] Maurya Wickstrom, "*The Lion King*, Mimesis, and Disney's Magical Capitalism," in *Rethinking Disney: Private Control, Public Dimensions*, eds. Mike Budd and Max H. Kirsch (Middletown, CT: Wesleyan University Press, 2005), 104.
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[76] Wickstrom, "*The Lion King*, Mimesis, and Disney's Magical Capitalism," 104.
[77] The attractions "Monsters, Inc. Laugh Floor" (2007) and "Turtle Talk with Crush" (2004) spin-off from *Monsters, Inc.* and *Finding Nemo*.
[78] Rebecca-Anne Do Rozario, "Reanimating the Animated: Disney's Theatrical Productions," *The Drama Review* 48, no. 1 (Spring 2004): 169.
[79] Gross, *Puppet: An Essay on Uncanny Life*, 4-5.
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[81] Steve Tillis, "The Actor Occluded: Puppet Theatre and Acting Theory," *Theatre Topics* 6, no. 2 (1996): 115.
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[106] Marcello, "Performance Design," 63.
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Chapter Four: From Wile E. to Wall-E

Taking the comedy of computer-animated films seriously

> In whatever shape or form, comedy can be silly or subversive, purposeful or perfunctory, observational or offensive, but always possesses energy and 'life,' the intrinsic imperative of animation.[1]
> ----- Paul Wells, *Understanding Animation*

> Select any two animals, grind together, and stir into a pot. Add prat falls, head and body blows, and slide whistle effects to taste. Garnish with Brooklyn accents. Slice into 600-foot lengths and release.[2]
> ----- John Hubley and Zachary Schwartz, "Animation Learns a New Language"

> Now that's funny! I guess we could use a little entertainment!
> ----- Hopper, *A Bug's Life*

The recipe for computer-animated film comedy draws upon an alternate set of ingredients than those involved in the creation of other types and traditions of animated humour. The guidelines proposed in 1946 by ex-Disney layout artist John Hubley, and the founder of United Productions of America (UPA) Zachary Schwartz, offer a pattern for a particular kind of American cel-animated cartoon produced in the classical studio-era. Just as there is no universal theory for comedy in the cinema, no single approach to studying comedy in computer-animated films can satisfactorily encompass the genre's unique brand of comedy, and the shifting terms of its precise "gagology."[3] Computer-animated films are not all built to the same comedic template, nor is there an individual film that outlines the genre's full range of comic effects. There are, however, certain comic orthodoxies and recurring gags to which computer-animated films regularly turn to generate its laughs. This chapter maps the under-explored terrain of computer-animated film humour, not only outlining the genre's long-standing and rich associations with comedy, but also identifying the jokes and comic material that can be found across their narratives.

Computer-animated films contain the multiple "points of access" that Geoff King argues characterises the mass-marketed comedies produced in contemporary Hollywood.[4] Such models of comedy have ensured the ongoing popularity of computer-animated films among contemporary audiences. They also govern the types of comedy spectators can expect from them. As part of its appeal to adult audiences, the genre builds upon an established "hallmark" of animated comedy, that of parody, which alongside social critique and satiric commentary flourished within the propagandist ideology of wartime animation.[5] The dismantling of particular genres, alongside subversive caricature, parodic swipes at celebrity culture and heightened self-reflexivity, situate computer-animated films as continuous with many staples of animated comedy, appeasing adult audiences through their volley of self-conscious gag structures. In satisfying the interests and tastes of younger viewers, however, computer-animated films have sidestepped one tradition of animated comedy to preserve its widespread family appeal. Overt sexual and racist humour is less evident across the genre than in the controversial terrain of "forbidden" animation, an area of adult animation that Karl F. Cohen describes as inviting censorship through a sustained emphasis on alcohol, drugs, sexual content, profanity and off-colour vulgarity.[6] Computer-animated films from outside the U.S. have otherwise broadened the representational scope of CGI, whether it is digital techniques replacing cel-animation in sexually-explicit Japanese *hentai* pornography, or Norway's first computer-animated film *Free Jimmy* that incorporates sex scenes alongside moments of drug-taking, violence and swearing. But computer-animated films produced and distributed for Western audiences have been generally marked by child-friendly, family-oriented comedies. They typically jettison overtly salacious, risqué or racist humour as a source of comedy, relegating any divisive content to occasional quips and oblique but innocuous metaphors. As Noel Brown suggests, the multi-layered appeal of computer-

animated films enabled the genre to fill the vacuum in Hollywood left empty during the 1990s by the decline in "adult-driven domestic comedy," with feature-length animation quickly reasserting its position within the family market.[7]

There are certain expectations embedded within the genre's comedic expression that further conjoin computer-animated films to prior forms of comedy in animation. The qualities upon which animation trades have been viewed by critics and scholars as conducive to a specific kind of comedy. The inherent literalism of animation is rooted in what Paul Wells calls its "permissive filter," and the ways that the medium offers a distinctive approach to comedy through its fundamental artifice. It is "embedded in the very illusionism of the animated form" and permits a release from realist convention with innovative and inventive sites of expression.[8] Indeed, the codes of silent cinema, the comic strip, vaudeville, comic theatre, operetta, circus and fairground amusement traditions all loomed large over the development of early animated comedy.[9] But animation's modernist credentials enabled the medium to evolve its own principles rooted in its status as a distinct graphic art. The independence of animation from live-action shaped the aesthetic operations of the cartoon, and drove many of its early comic imperatives. Kristin Thompson explains that "animation could do things that live-action could not, and hence it came to be assumed that it *should* do only these things."[10] It was within these contexts of animated difference and its potential for disruption and disorder that Walt Disney's symphonies were silly and Warner Brothers' animated tunes became increasingly looney. The capabilities of animation to test, extend, but also bring into disrepute the boundaries of prior comic representation, have enabled the creation of topsy-turvy cartoon worlds in which normal perception can be turned upside down. Raymond Durgnat employs the term "autonomous logic" to describe the curdled animation and non-conformist "cartoonlands" of Tex Avery, as well as the unique "drawing room jungles" of Tom and Jerry and Sylvester and Tweetie Pie.[11] The term

also re-appears within another comedy film context, this time in Béla Balázs' account of the unthreatening and inconsequential violence of American slapstick traditions.[12] What is striking about Balázs' description of cinema is the recourse to a highly cartoonal and animated language. Describing slapstick, he writes "the worst that can happen to images is that they can be erased or faded out or painted over – they can never be killed off."[13] This is particularly evocative of the cel-animation process of overlaying individual painted cels to create the illusion of movement, as well as the medium's aptitude for similarly doing "with its creatures as it likes." However, animation's "autonomous logic" functions differently to that of live-action, and animators seize the opportunity to extend the vocabulary of live-action slapstick in the pursuit of aesthetic invention. The language of computer-animated film comedy obeys these earlier types of cartoon humour insofar as comedy functions as its own statement of difference, variance and otherness. The genre holds its own "autonomous logic" dictating the kinds of humour spectators might expect to occur within a computer-animated film, one that is informed and inflected by the specificities of its worlds and, more broadly, the terms of the genre.

While computer-animated films cast their comic net wide, they do not support the wild and extreme expressions of wit founded upon 'crazy' disruptions of spatio-temporal unity and unorthodox patterns of behaviour. They jettison the effortless violation of expected and accepted logic, which has traditionally manifest an array of extreme sight, spot and blackout gags, physical buffoonery and the unprecedented ability of the cartoon to literalize "puns, proverbs and metaphors."[14] Humour drawn from the rejection of physical and spatial laws, metamorphosis and transposition of form, manipulations with colour (and its symbolism), and the upturning of normal expectations have been displaced from the centre of the computer-animated film's investigations. Exaggerated degrees of physical distortion and degradation of the animated body operate outside the accepted hyper-realist agenda of a Luxo world, while

the "head and body blows" at the centre of animation's history of violence have been replaced with a comedy of character, weighted in favour of their multi-faceted personalities. King has suggested that animation's removal "from any pretense at representation of the 'real' world, establishes a modality in which greater extremes of comic craziness are licensed."[15] But computer-animated films have closed off many of the established avenues through which such "craziness" has traditionally been pursued. Additional elements of the computer-animated film's comic currency take their cue from the organisation of the genre, including the prevalence of the journey narrative, devices of intertextuality, anthropomorphic representation, and the performance of the body and its vocal qualities. Even the abandonment of formal musical numbers has further enabled the genre to depart from animation's traditional comedy devices. Computer-animated films jettison what Tom Sito has called the "patter song" or "comedy song" that was the stock trade of the Broadway-style musical-comedy format popularised throughout Walt Disney's Second Golden Age.[16]

Computer-animated films without a strong comic verve are rare. Only three films have pushed the genre away from family-oriented comedies and into darker, more adult territory: Hironobu Sakaguchi's *Final Fantasy: The Spirits Within* (2001), Kevin Munroe's latest instalment of the Teenage Mutant Ninja Turtles story *TMNT* and Robert Zemeckis' *Beowulf*. The synonymy between the computer-animated film and comedy—particularly in the U.S.—foregrounds several issues. Thomas M. Leitch suggests that a genre's comic intent—that is, its target as one "which seeks to make viewers laugh"—would normally be sufficient to qualify it as comedy. "Unless," Leitch contends, "it is animated, in which case it will be classified as a cartoon."[17] This chapter argues that comedy does not fully subordinate or subsume the computer-animated film within (or under) the genre heading of comedy, designating "computer-animated" as merely a type, division or sub-genre of comedy, as is the case with the associative labels *black*,

romantic or *musical* comedy. Following the modal rather than generic approach to film comedy, and given the lack of "no single adequate theory of comedy" more generally, this chapter argues that humour in the computer-animated film involves specifically indigenous methods of presentation and delivery. Comedy is worked into the stable, solid genre of the computer-animated film in particular ways, leading to a range of comedic orthodoxies that both define, and are defined by, the specificities of their worlds. Comedy is therefore one of the final refuges of the genre's animatedness, and it is these qualities of animated difference that secure the computer-animated film's generic structures.

The story of animation's exceptional comic arsenal, and the medium's prolonged relationship to comedy, is one that remains mostly untold. Wells points out that despite the fact that comedy "is assumed to be at the core of most animated films," it remains an "intrinsic, but largely uninterrogated vocabulary."[18] Or as Brian Henderson puts it, a satisfactory theoretical analysis of the cartoon's extensive comedic repertoire "does not exist."[19] The conclusions offered in this chapter are intended to complement and extend the recent typologies of animated humour produced by Wells and Kirsten Thompson.[20] This chapter argues that the genre's jocular system and methods of its merry making pose something of a challenge to Thompson's assumption that "despite all this exciting new technology, much of animation still uses the old sight gags, pratfalls and verbal humour that have been around for over seventy years."[21] Far from regurgitating these dominant comic paradigms, computer-animated films convey their own sense of humour that reworks and expands upon pre-existing theories of animation comedy.

The journey narrative that presides over the majority of computer-animated films re-imagines the economy of the chase cartoon, a constrained mini-narrative of tightly-plotted action that structured cartoon comedy as early as the 1920s (eventually

diluted during the Vietnam war-era).[22] The chase traded in a particular ordered state of anarchy, underpinned by its velocity, acceleration, nonsense, frenetic activity, but also its unpredictability (despite its formulaic nature). Whether anchored to the relentless pursuit of the Road Runner by Wile E. Coyote, or Tom's obsession with capturing Jerry that repeated in increasingly elaborate Sisyphean cycles, the chase strikes spectators as funny because of the dynamic between chaser and chased. The journey narrative thus shares with the chase the likelihood of hazards, of rhythm and movement, dealing in the comedy of survival alongside the intrusion, intersection and comedic conflict of incongruous worlds that are suddenly made to collide. But the computer-animated film has extended the economy, suspense and reasoned system of the cartoon chase narrative. No longer "sliced into 600-foot lengths," computer-animated films come in feature-length duration, demonstrating their obedience to greater Classical virtues of narrative coherence and causal logic. This has permitted the borrowing of narrative archetypes familiar from forms of live-action comedy, from the Classical period up to the contemporary era. Computer-animated films have been allied to what Stanley Cavell has theorised as the "comedy of remarriage," as well as a variety of other 'romcom' structures.[23] *Shrek*, for example, amalgamates the controversial off-colour humour of John Kricalfusi's cult classic *Ren & Stimpy* (1991-6) with the satirical edge commonplace in *The Simpsons*, *South Park* and *Family Guy*. But as M. Keith Booker argues, *Shrek* is also "a virtual remake of the main plot line of the classic screwball comedy *It Happened One Night* (1934)."[24] *Antz*, *Shark Tale*, *Flushed Away*, *Cars*, *Alpha & Omega* (2010) and *Rio* are no less explicit in the debt they pay to the structuring principles of the romantic comedy, and largely conform to the "boy-meets-girl" narrative category outlined by Gerald Mast as one of eight plotlines that arrange the comedy film.[25] Wall-E's romantic courtship of EVE in *Wall-E* distils many of the 'romcom' conventions, albeit through the comic conjunction of mime, charade and

intertextuality. *Wall-E* is ostensibly a typical "boy-meets-girl" narrative, but is offered as a robot reboot of the Michael Crawford/Marianne McAndrew courtship that plays on Wall-E's VHS copy of *Hello Dolly!*

Sharing their narratives with other Hollywood films, the appropriation of familiar comedy structures testifies to the ability of computer-animated films to resituate the mutual loathing/loving, passion and sentiment of potential male/female couples within its own representational heritage of anthropomorphism. Anthropomorphism remains a particularly powerful catalyst for computer-animated film comedy, just as it resides within the genre's capacity to (re)construct the geography of its virtual spaces. Israel Knox explains how the "spectacle of animals carrying on like human beings, especially by their resort to language" remains "highly amusing."[26] Philosopher Henri Bergson's theory of laughter—recently allied by Scott Curtis and Suzanne Buchan to studio-era animated comedy—similarly gestures towards the comic potential of human/animal assimilation.[27] Bergson argues that "You may laugh at an animal but only because you have detected in it some human attitude or expression."[28] Computer-animated films have extended the comic language of anthropomorphism by staging the meeting of human (ánthrōpos) and non-human (morphē) registers as more of an eventful comedic collision. The suave and valiant performance of Puss in Boots from the *Shrek* films is routinely interrupted by his irrepressible and typically reflex feline actions that comically disturb his bravado. His confident entrance in *Shrek 2* is instantly checked by a hairball lodged in his throat (prompting the character to retreat from bipedal to quadruped poses). In the spin-off *Puss in Boots*, he becomes transfixed by a spot of light that jags across the cobbled stone floors of San Ricardo. The feline abandons his pursuit of the villainous Humpty Dumpty, and instinctively jumps to follow the light's erratic path with catlike exuberance. Computer-animated films often alleviate the anthropomorph's aspirations for human expression to comically surface the

instinctual element of the morphē. But the wedding of anthropomorphism with familiar narratives across the genre recalibrates the dominant "battle of the sexes" motif of the 'romcom' as something resembling the "battle of the species."[29] Certain incompatibilities that "may arise from social status, wealth, conflicting lifestyles and attitudes" certainly remain salient.[30] *Gnomeo and Juliet*, in particular, poses the romantic union as transgressive of a class divide, albeit as a playful snobbery between blue/Montague and red/Capulet garden gnomes in its retelling of Shakespeare's "star-crossed lovers" story. However, Wells points out that when 'romcom' structures are mobilised within the anthropomorphic context of animation, the tribulations of the "boy-meets-girl" narrative can be abandoned to explore instead the implications of "cross-species coupling."[31] They also become a device for exploring taboo, cross-dressing, gender-bending and alternative sexualities. Indeed, the unconvincing cross-dressing disguises of Bugs Bunny during his wealth of "transvestite cartoons" are evoked by Bender (*Robots*), Gru (*Despicable Me 2*), and most memorably, Buzz Lightyear's trespassing of gender roles as housewife "Mrs Nesbitt" in the original *Toy Story*.[32]

The computer-animated film also provides the stage for another orthodox duo of comedy film, adapting the masculine spaces and familiar comic structures of the "buddy movie." Just as in live-action, the "buddy movie" structure of the computer-animated film is most commonly formed through involuntary and serendipitous events: a mismatched duo thrown into incongruous and highly comedic conflict as appropriate to the unintentional schemes of the "flushed away" journey narrative. One character is typically reluctant to form a pairing, although any hostility among the duo is progressively dissolved over the course of their union, resulting in a developing friendship. That is not to say that these impromptu duos cannot establish an immediate bond whose strength is tested throughout the narrative (such as fish Oscar and a Great

White Shark named Lenny in *Shark Tale*). But it is commonplace for the computer-animated film to make use of the "verbal banter, mutual rescues, [and] a movement from antagonism to affection and support" that Yvonne Tasker describes as central to the hostile texture and workings of the buddy movie.[33] The pairings of the Shrek and Donkey in *Shrek* ("why are you following me?"), Boog and Elliot in *Open Season* ("What are you doing here?") and Carl and Russell in *Up* ("What are you doing out here, kid?") are all emblematic of the initial disdain that precedes the final origination of new buddies. However, as Ed Hooks argues in relation to the rodent/human buddy pairing in *Ratatouille*, interspecies communication represents a "fascinating challenge for animation" and animators "have to be very careful about how you have them interact with one other."[34] The interspecies coupling of computer-animated films can be compared to the strand of "biracial" buddy films that, as Bret E. Carroll argues, were part of a sub-genre popularised during the 1970s and 1980s that reflected "the advancement of African Americans in the decade following the civil rights movement."[35] The computer-animated film genre is certainly able to reconfigure the white male/black male tensions of racial difference as a palpable cross-species clash. In *Ice Age*, Diego admits that Manny the Mammoth and Sid the Sloth are "a bit of an odd couple," though he might equally be referring to any of the cross-species pairings that populate the genre, whether binaries of alien/human (*Planet 51*), human/rodent (*Ratatouille*), human/bee (*Bee Movie*), rodent/duck (*The Ugly Duckling and Me!*), human/flea (*A Monster in Paris*), and human/baseball (*Everyone's Hero*). However, the biracial element of the buddy movie phenomenon can itself be sustained through specific choices in voice casting that reaffirm the presence of a racial boundary even within the alliance of different species. The white male/black male pairings of Mike Myers/Eddie Murphy in the *Shrek* films; Ben Stiller/Chris Rock in the *Madagascar* franchise; Ashton Kutcher/Martin Lawrence in *Open Season*; and Jack Black/Will

Smith in *Shark Tale* all enact racial divides at the same time as the characters' own clash of size, shape, stature, design and species visually connotes their conflict within the journey narrative (Fig. 4.1).

The feature-length duration of computer-animated films has placed additional emphasis upon the value of verbal comedy. The widely-held assumption is that the jokes of animated comedy unfold according to that which is *visual*, rather than aspects of sound or dialogue. In answer to the question "How is animation comedy different?" Jean Ann Wright responds that "It's above all visual with plenty of sight gags."[36] The recent critical turn towards animation sound has prompted the reassessment of this assumption. Steven Allen has objected to those arguments that omit the sonic capabilities of animation, arguing for cartoons (and especially those produced by Avery) to be conceived as "integrated audio-visual vehicles."[37] Feature-length computer-animated films can equally be viewed in this audio-visual manner, evidenced by the inclusion of *A Bug's Life* under the heading of 'verbal comedy' in Thompson's summary of the most dominant comedic tropes in animation. Verbal comedy has commonly been associated with the sitcom style and seriality of television animation.[38] But language and speech are often employed for comedic purposes in the computer-animated film too, and their narratives have become synonymous with extensive comic dialogue and carefully constructed verbal witticisms. Computer-animated films certainly sustain the "joke-oriented" dialogue familiar from the Looney Tunes and Merrie Melodies cartoons, though they are less-inclined towards recognisable catchphrases ("What's up, Doc?") or outlandish speech impediments such as Tweetie Pie's "I Tawt I Taw a Puddy Tat," or Elmer Fudd's exaggerated rhotacism when instructing audiences to "Be vewwy qwuiet."[39] Wells remembers how both were a staple of the pungent, rapid-fire cynicism of Yiddish immigrant humour that was "lovingly embraced" by post-war America (and inherited by the Fleischer Brothers and

the Warner Brothers studio).[40] Despite their strong franchise mentality, computer-animated films do not have the same opportunities to develop character catchphrases in the same way as the seven minute Hollywood cartoon, or recent long-running animated serials. There are also limitations to the catchphrase as a device of comedy. A 1994 episode of *The Simpsons* titled "Bart Gets Famous" parodies the cultural purchase of the catchphrase that, as Chris Turner suggests, "can easily become a comic crutch, drained of any real humour through overuse."[41]

A particularly distinguishing feature of the genre's vocal orientation has been the deployment of stand-up comedians in vocal roles. Tim Lawson and Alissa Persons point out that while many voiceover artists of the Golden Age era honed their talents on radio, today "many are also former nightclub and stand-up comedy performers."[42] Computer-animated films certainly provide evidence of this practice. The casting of former Comedy Store member Tim Allen in *Toy Story*, alongside fellow stand-up comedians Don Rickles (Mr. Potato Head), Jim Varney (Slinky Dog) and Wallace Shawn (Rex the Dinosaur), established a blueprint for casting actors with a background in stand-up comedy from which the genre has seldom deviated. Denis Leary (*A Bug's Life*), Ray Romano (*Ice Age*), Billy Crystal (*Monsters, Inc.*), Wanda Sykes (*Over the Hedge*, *Barnyard*), Norm MacDonald (*The Flight Before Christmas* (2008)), George Carlin (*Cars*, *Happily N'Ever After*), Adam Sandler (*Hotel Transylvania*), Jerry Seinfeld (*Bee Movie*) and Patton Oswalt (*Ratatouille*) all amplify the potency of verbal comedy through a vocal confidence and sophisticated comic delivery. The predominance of stand-up comedians across computer-animated films is important for three main reasons: issues of characterisation, the genre's relationship to the tradition of "comedian comedy" and the new ways of conceptualising the relation of sound to cartoon humour. For example, the cheery, spirited, forgetful and often rambling personality of Pacific regal blue tang fish Dory in *Finding Nemo* is well-served by the intuitive impulses and

improvisations of comedienne Ellen DeGeneres, who began her stand-up career in New Orleans during the 1980s. DeGeneres' riffing, real-time responsiveness, imbued with a feeling of the unprepared and illogical, offers an excess of verbal material that fully realises the spontaneity and absent-mindedness of Dory's aquatic character.

Computer-animated films have also extended the cohesive generic forms and techniques of "comedian comedy." This was a comedian-centred form of the studio-era offering primacy to the spectacle of the comedy star's film performance, manifested, in Steve Seidman's words, through the "comedian's awareness of the spectator's presence and the assertion of his own presence [that] both work toward described enunciation."[43] The same structures of address privileging the comedian's presence are endemic to the computer-animated film. The description of Woody Allen's performance as Alvy Singer in the first sequence of *Annie Hall* (1977), as offered by Claire Mortimer, fits closely with the introduction of Allen's character in *Antz*. Alvy "strings together a series of gags, in the style of a comedian's stand-up routine" and with "poignant glimpses of his despair and low self-esteem."[44] Indeed, the juxtaposition in *Annie Hall* of the "deeply personal" with the "ridiculous" becomes manifested in *Antz* by the meandering monologue of Z as he talks to his therapist (and, by extension, to the spectator). Self-deprecating, isolated and showing his anxious "fear of enclosed spaces," *Antz* utilises the organising force of the virtuoso stand-up performer within the diegetic activities of its Luxo world. *Monsters, Inc.* more explicitly inscribes the stand-up credentials of improvisational comedian Billy Crystal into its narrative events, whilst disclosing the diversity of the animated character's comedic armoury. The film concludes with Crystal's character Mike Wazowski performing an acerbic and observational comedy routine, reminiscent of a stand-up act in a comedy club rather than a child's bedroom. The fast-paced delivery of Wazowski/Crystal is staged for the spectator (and the awakened child onscreen) as an entertaining comic spectacle. Steve Neale and Frank

Krutnik have suggested "much short comedy is of the comedian comedy kind," citing animated figures like Bugs Bunny, Daffy Duck and Tweetie Pie who all gesture to camera to signal their deviant behaviour and supposedly onscreen/offscreen split-personality.[45] *Monsters, Inc.* literally spotlights the intimacy and immediacy of stand-up comedy as a comic performance (Fig. 4.2). However, with Mike's verbal jokes and wordplay failing to elicit any laughter from the unresponsive child, the one-eyed monster abandons his chatter, and resorts to a clearly-rehearsed physical routine in which he swallows his microphone before regurgitating it back up in a childishly flatulent manner. Only now does the child laugh hysterically, clapping and screaming wildly upon seeing this perfectly executed stunt. Mike is presented as an anomaly. He is a specific type of stand-up comedian, contrary to the other monsters who resort to all manner of props to stimulate their young audience's laughter, including chattering false teeth, funny glasses and spinning plates. As Mike himself states, "Only someone with perfect comedic timing could produce this much energy." The climax of *Monsters, Inc.* is therefore explicit in adding verbal comedy to the genre's comic armoury. Within the newfound desire of "Monsters, Incorporated" to "Think Funny"—the new motto that adorns the company's Laughter Floor—the film suggests the necessary coexistence of physical absurdity with the comedy of language.

The strong verbal patter of computer-animated films crafts new possibilities for the comic union of sound and comedy in animation. Rebecca Coyle suggests that "an issue that has particularly intrigued animation-sound scholars is that of 'funny music', that is, the ways that music and sound are used for humour."[46] Within the construction of its comedy routines, the hyper-realist approach to sound in the computer-animated film relies upon a naturalistic application of an appropriate audio track. The comic language of the genre's soundscape can thus be defined, in Philip Brophy's terms, as *symphonic*, rather than *cacophonic*.[47] Computer-animated films eschew the explosive

aural dynamics of Warner Brothers, and instead fortify the organic connection between sound and image. Within their *symphonic* sound register, eminent film composers of the contemporary Hollywood-era such as Randy Newman (the *Toy Story* films, *Monsters University*), Thomas Newman (*Finding Nemo*), Danny Elfman (*Meet the Robinsons*, *9*, *Epic*), John Williams (*The Adventures of Tintin: The Secret of the Unicorn*), Michael Giacchino (*Up*, *Cars 2*), Hans Zimmer (*Kung Fu Panda 2*) and Alan Silvestri (*The Wild*, *Beowulf*, *The Croods*) have designed elaborate instrumental scores that fully support the nuanced trajectory of, and tonal shifts within, the computer-animated film's narrative structure. Unlike more conventional forms of screen comedy such as slapstick, or even the episodic patterns of repetition within cartoon plotlines, computer-animated films offer greater scope for narrative peaks and troughs of comedy and pathos, laughter and poignancy. The distinction that Scott Curtis makes between another set of audio categories germane to animation sound—*isomorphic* fidelity and *iconic* analogy—is also applicable to the soundscapes of computer-animated films.[48] Their audio track is rhythmically and *isomorphically* shaped around the images (a technique known pejoratively as "mickey-mousing"). These synchronised musicological rhythms are not, however, used to create conspicuous effects that achieve their impact through heightened analogy and a degree of jarring incongruity. Rather, the genre's *isomorphism* is rooted in a hyperrealist approach that eschews the comic possibilities of incongruous and inappropriate sounds, and aims instead for an emotive, rousing musical score that is closer to the effect of live-action cinema.

In his examination of the sixteen Droopy cartoons directed by Tex Avery during a twelve year period between *Dumb-Hounded* (1943) and *Deputy Droopy* (1955), Curtis asks, "why do cartoon characters always have funny voices? Certainly, it is because they have funny bodies."[49] For Curtis, "funny" is a synonym for "distorted" and "elastic," reflective of the (often literal) eye-popping, nonsensical proportion, infinite

flexible body parts, deflating limbs and stretchy heads that manifest the visual language of animation's physical absurdity and the reaching of its threshold of distortion. As one hillbilly tells the audience in Tex Avery's early animated film *A Feud There Was* (1938), "in one of these here now cartoon pictures, a body can get away with anything," including the impossible recovery of their bodily shapes. However, given what we know about the genre's Luxo worlds, we can expect to find an alternate set of rules presiding over the *un*distorted and *un*elastic behaviour of computer-animated film bodies. Unless bodily reshaping and exaggerated physical curvature function as a moniker of unprecedented superhumanity (Elastigirl in *The Incredibles*), or as an intrinsic feature of an object's design (*Toy Story*'s Slinky Dog), spectators are reminded of the worldly limitations that govern characters' movements and actions. Computer-animated film bodies do not have the same fluid and flexible properties that other animated bodies do. As the eponymous elephant Horton from *Horton Hears a Who!* shrieks about his stretched trunk, "it's not supposed to bend that way!" A demonstration of stability and immutability, computer-animated films do not exhibit the hyperbolic and distorted representations characteristic of 'animated' behaviour in cartoons. This permits the genre to (re)stage the body as a comic spectacle in a variety of new ways.

The developed and multi-faceted personalities of computer-animated films characters are mined for their comic function, giving the genre freedom to address and interrogate the progressive possibilities of its extensive cast. Wells explains that the "power of the personality" determines the impact and force of the animated gag, and it is therefore "intrinsically funnier if a king slips on a banana skin than a child."[50] Comedy in animation has been theorised by Wells and Klein in relation to the comic possibilities of distinctive personality types.[51] John and Kristin Kundert-Gibbs have looked specifically at how computer-animated characters are demonstrative of certain kinds of behavioural patterns, drawing on complex theories of character structure

derived from twentieth-century psychiatric therapy and bioenergetics. They argue that many computer-animated films exhibit the character types known by the labels *schizoid*, *oral*, *psychopath* (which can be further subdivided into *seducing* and *bullying* stereotypes), *masochist* and *rigid*.[52] For Kundert-Gibbs, Anton Ego from *Ratatouille* displays *masochistic* body cues (hunched and compressed, contracted vertically), while *Toy Story*'s Buzz Lightyear "is an excellent example of a *rigid* type" on account of his hyper-narcissistic behaviour.[53] Beyond these pure categories, the antagonistic Bowler Hat Guy from *Meet the Robinsons* is interpreted as a mix of the *masochist* and *psychopath* physicality, as his "scheming desire" is reflected in his design ("overblown top half" and undersized legs) and self-sabotage tendencies. Even the rare *oral* type, Kundert-Gibbs suggests, is typified in the personality of Violet Parr from *The Incredibles*. Violet's superpowers of invisibility manifest several of her particular *oral* traits, such as an "undercharged state," attempts at independency, underdeveloped physicality and whiny persona. According to Kundert-Gibbs, the *oral* character type "develops an ego ideal that she is very charged and very energetic. [...] The world doesn't understand this energy, so others misunderstand all the energy the oral thinks she has."[54] In *The Incredibles*, Violet's (normally latent) superhero capabilities for conjuring a protective force field visualises precisely this energy that both emerges from and defines elements of her *oral* character.

Computer-animated films can, however, mine the multi-faceted personalities of its complex characters for their comic potential. For example, *schizoid* personalities are traditionally defined according to abandonment and trauma. They are dissociative individuals who continually negotiate an anxious experience of feeling unwanted. Kundert-Gibbs argues that "in dramatic work, schizoid characters are most often the comic sidekicks of the hero if they are "good."" However, the *schizoid* also describes those characters in fictional works that "snap" and become charged with cruelty and

"twisted morality."[55] What makes such character types funny, however, is the effortless attribution of them to computer-animated anthropomorphs. In *Antz*, Z admits that he had an anxious childhood (his father leaving when he was "just a larva"). The *schizoid* personality also underscores the insecurity of *Toy Story*'s Rex ("I don't think I can take that kind of rejection!"). Humour emerges from the plastic dinosaur's preoccupation with his disproportioned body and lack of ferociousness. Other characters that might be identified as *schizoid* personalities include Melman the Giraffe in the *Madagascar* series ("You know how I have to get up every two hours because of my bladder infection") and the Donkey from *Shrek*, who confides in the eponymous ogre upon their first meeting that he "don't have any friends." But computer-animated films have also balanced the quirky, if slightly withdrawn, 'good' sidekick role with the hostile manifestation of the *schizoid* personality through their curiously retroactive depiction of its villains.

Daniel Goldmark describes a climactic moment from *Ratatouille* in which food critic Anton Ego nostalgically "recalls his mother effacing a boo-boo with a bowl of ratatouille."[56] Ego's first taste of the film's signature food dish cues a sudden flashback to a childhood memory of his mother's own cooking in their family kitchen (the bowl of ratatouille providing welcome distraction from the young Anton's grazed knee). It is the comical image of a pre-pubescent Anton gazing adoringly at his mother (and then down at his food) that undercuts his present-day arrogance and sadistic persona, by sympathetically portraying him as an innocent child. Several of the genre's primary antagonists, including Gru (*Despicable Me*), Megamind (*Megamind*), Bowler Hat Guy (*Meet the Robinsons*) and General Shankar (*Escape From Planet Earth*), are similarly demystified in humorous scenes of villainous youth that reveal them to be lonely, dissociative or unwanted children. They are each depicted as young, unappreciated dreamers who are the subject of parental hostility. Such "babyfication" or infantalising

of animated characters often constitutes the inevitable nadir of a cartoon's life-cycle, as studios attempt to revitalise waning interest through a 'childish' re-imagining of its primary cast. Examples include, but are not limited to, *Jim Henson's Muppet Babies* (1984-91), *The Flintstone Kids* (1986-8), *A Pup Named Scooby-Doo* (1988-91), *Tom & Jerry Kids* (1990-5), *Baby Looney Tunes* (2002) and *Pink Panther and Pals* (2010).[57] But computer-animated films regressively age their characters and take the time to give motive to their avoidant behaviour. These revelatory comic sequences are designed to explicate the antagonist's later (misguided) aspirations of villainous superiority. They equally craft a space in which to laugh at their villainy by undercutting their cruelty and vindictive behaviour with the pleasure of their youthful re-design. Perhaps the greatest embodiment of the *schizoid* paradigm in the computer-animated film, however, occurs in *The Incredibles*. The film reveals that outcast and fantasist Buddy Pine's failed quest to become Mr. Incredible's sidekick ("I am your ward, IncrediBoy!") leads him to develop his alternatively villainous persona, Syndrome. The film thus combines in its depiction of Buddy the two kinds of *schizoid* personalities typically found in the construction of fictional characters. *The Incredibles* suggests that to close off one manifestation of the *schizoid* personality (the "sidekick" role) results in the other villainous behaviour "snapping" into activation. In computer-animated films, then, villainous characters are shown undergoing dramatic transformation and metamorphosis at the level of personalities (Fig. 4.3).

Through the development of more complex and multi-faceted personalities, computer-animated films have ushered in a new phase of funny faces. Their use of ensemble casts allows the different dynamics between conflicting and complementary personalities (heroes and villains, buddies) to be probed for humour. Computer-animated films also exploit their capacity to convincingly animate physical traits and tics associated with laughter in the performance of individual characters, such as

"smiling, shaking of head or torso, crinkling of eyes."[58] DreamWorks CG Supervisor Bert Poole suggests that "comedy is one situation where a character's facial gestures are important," and thus high-key lighting techniques are employed to support the "readability" of a computer-animated figure's expressive physiognomy.[59] But the luminous properties of a Luxo world extend to the intelligibility of physical comedy and the articulation of animated slapstick. In the opening scene of *Kung Fu Panda 2*, Panda protagonist Po deploys increasingly unorthodox martial arts manoeuvres to protect the Valley of Peace community from encroaching Wolf Bandits. High-key lighting during this fight sequence enables spectators to see, in Poole's words, "how the comedy plays out easily amongst a lot of action."[60] Other formal techniques are employed across computer-animated films to augment the comic spectacle of the body in ways not typically thought of in relation to animation. As it does in live-action, editing can contribute to the expressiveness and comedy of a single or repeated gesture. The sequence from *Kung Fu Panda* depicting Po's failed entrance to the Dragon Warrior tournament, and Gru's attempts at gaining access to Vector's Fortress in *Despicable Me*, employs rapid-cutting and montage editing to underline the comedy of each character's physical actions. The excessive stylisation as they jump, climb and vault impenetrable walls amplifies the monotonous futility, but also the floundering comedy, of their repetitious actions.

Slow-motion techniques are another widespread feature of computer-animated films, and are consistently utilised for their comic effect. Traditionally the reserve of action cinema and its highly stylised rendition of violence, slow-motion is used in this context to heighten audience suspense by elongating a shot's expected duration.[61] Computer-animated films employ the stretched temporality of slow-motion sequences as a visual tactic intensifying the spectators' appreciation of their human and non-human characters, creating prolonged bursts of leisurely activity that do not delight in

the animation of death, but find pleasure in animated life. The *Kung Fu Panda* films are well-versed in utilising slowed-down activity for its comedic potential, holding spectators' attention on Po's corpulent physique and ungainly movements. Bodies are also shown in slow-motion in *The Magic Roundabout*, *Hoodwinked*, *Madagascar: Escape to Africa*, *Legend of the Guardians: The Owls of Ga'Hoole*, *Tangled* and *Brave.* In *Over the Hedge*, an abnormally vigorous squirrel named Hammy gulps a sugar-loaded energy drink, prompting his pupils to dilate and his body to spasmodically gyrate. To visually convey Hammy's heightened hyperactivity, the film decelerates the surrounding action and affords the squirrel opportunity to wander impossibly—and at seemingly 'normal' speed—through the fictional world as it slowly unfolds (it is revealed that even the Earth has stopped spinning on its axis). Playing Hammy's caffeine-induced transcendence through the relativity of passing time, *Over the Hedge* reconfigures the character's sudden breakneck movement into a leisurely stroll through a world that appears to be moving in slow motion.

The comic possibilities of slow-motion have also been mined by computer-animated films with a more self-conscious quality. The fight sequence between Princess Fiona and Robin Hood's Merry Men in *Shrek* parodies the visual spectacle of "bullet-time" (or digital "time-slice") technology: the digital turning inwards on itself to render its own visual capabilities. Bullet-time is a technology that brings the decelerated rhythms of slow-motion (as a device of duration) closer to the stillness of the freeze frame, whilst its conjoining of moving images with single photographs provides "the illusion of movement in a comparable way to stop-motion animation."[62] Bullet-time is thus a highly animated temporality, and computer-animated films are able to easily recreate the visual effect of a process that conventionally involves multiple cameras, green screen technology, virtual cinematography and digital compositing. Although Michael North has argued that slow-motion has "no real meaning in the context of

animation," the computer-animated film's simulation of the 'slo-mo' and bullet-time technique permits the physicality, mobility and animated acrobatics of its bodies to be played for laughs.[63] The addition of slow-motion adds to the computer-animated film's visual language by mimicking the technology used in live-action, enhancing through deceleration the comic spectacle and staging of bodily movement.

Computer-animated films have also sidestepped animation's history of violence, jettisoning a lengthy tradition of cartoon dismemberment and the sensationalism of suffering bodies that Henry Ruskin suggests "is nasty but unfortunately it is true."[64] The genre does not partake in the allure of injury, and in the main avoids the physical comedy of stretching, splintering, crumpling, discoloration and squashing. This is not to say that computer-animated films do not contain the occasional violent element. But this is an alternate brand of brutality. In some significant respects, computer-animated film violence is closer to live-action cinema than cartoon violence, or even the body horror of *anime* (in which bodies are disfigured and refigured through transformation and invasion by foreign forces).[65] Eric Lichtenfeld writes that "Rather than mallets and meat cleavers [familiar from multiple *Tom and Jerry* narratives], the heroes of *The Incredibles* must evade machine gun fire and gasoline explosions—and the occasional laser beam and killer robot."[66] While computer-animated film characters (particularly the villains) may be imbued with developed personalities and a memory, their bodies are not. In *The Incredibles*, Elastigirl must remind her children that the "bad guys" in the film "won't exercise restraint." This suggests that violence in the film's fictional world demarcates boundaries of good/bad, identifying the villain's malevolence and megalomania in ways that Jerry's relationship to Tom never was. Jerry is never a villain to Tom's hero, despite the "painful indignity" he inflicts upon his feline nemesis.[67] Computer-animated films frequently make spectators aware of the frailty and fragility of characters' bodies, revolting against the harmless "vivisection" that Esther Leslie suggests leaves animated

figures with "no after-effects" of their violent escapades.[68] Bodily mutilation and disfigurement are no longer implicated in a discourse of painless recovery and playful cartoon immortality. Characters bleed and break, lose their lower legs (*How to Train Your Dragon*), and suffer the heartbreak of being unable to bear children (Ellie in *Up*). Actions hurt and characters age, in individual films or across franchises, while superheroes are not immune to the perils of aging. Even the *Toy Story* films implicate the rhetoric of a susceptible body within a discourse of disposability and diminishing value (Fig. 4.4).

Computer-animated films, on occasion, do exploit their differences from live-action by nullifying the consequences of violent events, and have a character (impossibly) escape brutal tribulations unscathed. These exceptions to the rules of the genre may also be ameliorated by certain exceptional characters. Throughout *Wreck-It Ralph*, for instance, much is made of the regenerative possibilities of Fix-It Felix Jr., a videogame avatar charged with the ability to "respawn" (that is, to become born again within a videogame world) no matter how many times he is killed 'in-game.' Gaming practice involves the pleasures of "rebirth, respawning, and reincarnation," and "multiple selves and multiple lives are assumed in game construction."[69] Death within a videogame is a temporary setback, one that is easily rectified by the innate mechanisms of gameplay. Repeated comic spectacle is made out of Felix's intrinsic indestructibility, drawing him into the lineage of the hapless Wile E. Coyote and luckless Tom Cat. A short sequence has Felix wounded no less than nine times in quick succession. But after each injury, a musical melody cues his signature revival, and he returns as sprightly and jovial as before. The scene is played for its comedy to a watching audience whose laughter becomes instantly triggered ("We're killing them! Comedy gold!"). Fix-It Felix is certainly atypical of the genre, and his durability is contextualised by the conditions of *Wreck-It Ralph*'s specific videogame milieu. In the main, however, the construction of

empathetic, engaging characters with strong personalities and opinions across a multitude of computer-animated film is tied to the new solidity and volume of their bodies. But the promotion of characters distinguished by increasing depth and three-dimensionality is also signalled by their unexpected and humorous mobility. They may wrestle with conflicting emotions, develop feelings over time, or demonstrate a capacity to behave "out of character." Yet computer-animated film characters are also charged with an ability to freely ascend from a Luxo world into the promotional spaces that surround them. It is this movement through, into and across certain spaces that enhances their believability, whilst raising to a higher pitch of emphasis a potential extra-diegetic identity as fully-realised personalities.

Tangled? Metalepsis and computer-animated film comedy.

> A prisoner paints a landscape on the wall of his cell showing a miniature train entering a tunnel. When his jailers come to get him, he asks them "politely to wait a moment, to allow me to verify something in the little train in my picture. As usual, they started to laugh, because they considered me to be weak-minded. I made myself very tiny, entered into my picture and climbed into the little train, which started moving, then disappeared into the darkness of the tunnel."[70]
> ---- Gaston Bachelard, *The Poetics of Space*

> Neither computer nor object animation want to distract from the illusion of a perfect mimesis or the illusion of animate objects and accordingly these modes of animation do not employ metaleptic transgressions as often as drawn animation does.[71]
> ---- Erwin Feyersinger, "Diegetic Short Circuits"

The conjoining of animation and metalepsis has proven particularly well-suited to the body of cartoons whose loose narrative structures lean heavily upon the contexts of their creation. The "self-figuration" of early animation, in which "the tendency of the filmmaker [was] to interject himself into his film," involved an audacious, dialogistic practice dramatising the omnipotent power of the animator.[72] Rooted in the histories of the lightning sketch and the chalk talk of vaudeville performance, these cartoons derived their comic impact from the dissolving of fictional boundaries, prompting interaction between the skilful animator and the sudden autonomy of their creation, whether it was *The Enchanted Drawing* (1900) and *Humorous Phases of Funny Faces* (1906) by J. Stuart Blackton; the Fleischer brothers' *Out of the Inkwell* series; a variety of Felix the Cat cartoons, and the first British animated film, Walter R. Booth's *The Hand of the Artist* (1906).[73] The humorous honesty of this self-reflexive, presentational mode makes visible the labour of animated production, excavating underneath the medium's magical capabilities for the purposes of spectatorial amusement. The terrain inhabited by such "deconstructive" animation is, as Wells argues, one that "reveals the premises of its own construction for critical and comic effects."[74] Metalepsis has been recovered by scholars, such as Erwin Feyersinger, to provide a more precise framework

for analysing these particular self-reflexive operations. For Gérard Genette, metalepsis is a narrative device deployed in literature that accounts for "any intrusion by the extradiegetic narrator or narratee into the diegetic universe (or by the diegetic characters into a metadiegetic universe, etc.)."[75] Playing upon the "double temporality of the story and the narrating," the impact of the metaleptic transgressions between narrative worlds—in any direction—occurs at the border or boundary between them; that is, the "shifting but sacred frontier between two worlds, the world *in* which one tells, [and] the world *of* which one tells."[76] The extradiegesis (metonymically symbolised by the hand or animating instrument itself, though often both) intrudes or intervenes into the intradiegesis, to intimately and directly control the intradiegetic content.

Computer-animated films are not governed by the same logic of transgression and violation of borders that conventionally characterises "deconstructive" animation. In fact, they have been identified for their strong resistance, rather than adherence, to metalepsis as a comedic device, and cited as a counterpoint to the self-reflexive style of animation, which undertakes such disruptive operations. Feyersinger contends, for instance, that metaleptic strategies are used less frequently in the computer-animated film "due to its common aspiration for realism."[77] Patrick Power has added that narrative metalepsis "is definitely not part of a hyperrealist aesthetic because it draws attention to the synthetic nature of storytelling."[78] This perhaps explains why certain cartoons have attracted attention for their use of metalepsis over others.[79] Indeed, the pursuit of seamless worlds in the computer-animated film, and the hyper-realism of their Luxo worlds, situates them outside the perverse playfulness and funny frames that lie at the cornerstone of metaleptic transgression. Animators do not physically intrude into the computer-animated fiction, nor is their offscreen presence visualised metonymically (or alluded to at all). This chapter suggests the ways in which computer-animated films can, however, be conceptualised according to a comedy of metalepsis,

identifying how it plays a significant role in appreciating the complexity of their comedy. Any number of imaginative ways can signal the border dividing the extradiegetic world of the author and the intradiegetic space of the fiction. Computer-animated films certainly convey multiple strategies to achieve what Douglas Hofstadter has described as "strange loops, or tangled hierarchies."[80] Characters can, for example, establish a degree of autonomy by communicating with its extended extradiegetic world, from company logos to credits sequences and even features of film form. Comedy arises at the junctures where spectators recognise the communication between the worlds as colliding fictions, where the conflict between the world of the framing and that which is framed is coerced into a comic spectacle.

Changes to the appearance of studio logos and the creative re-design of corporate identities have been commonplace throughout cinema history, though such practices have proliferated in the contemporary era. Paul Grainge points out that "the early 1990s saw a flurry of modifications to studio logos in response to broad changes in corporate management and the launch of specific entertainment divisions."[81] Evolutions in the design of studio signification exploited technological developments in sound design and digital imagery, retaining the brand capital of the studio whilst affording a host of creative makeovers to the distinctive stamp of corporate authorship. One such refinement involved the adjustment and re-shaping of logos to accommodate particular blockbuster releases, tailoring corporate signatures (and the familiarities of the house style) in ways that reproduce the themes, aesthetics or tone of the film that it is introducing. Computer-animated films have made significant contributions to this history, co-opting the topography of the logo within the film's habits and formal styles to craft a greater consistency between the text and the world of its promotion. For *Wreck-It Ralph*, the Walt Disney Animation Studios emblem is further customised to reflect the film's retro-videogame narrative. The footage of *Steamboat Willie* now

incorporated into the Disney logo's design—first used in the computer-animated film *Meet the Robinsons*—is pixelated in 8-bit computer graphics. Electronic arcade game style music also substitutes Mickey Mouse's tuneful whistling (Fig. 4.5).

The disruptions to these logos' visual integrity are typical of the new narrative meanings now attained by these corporate signatures. As Grainge puts it, "Studio logos have come to play a more pronounced role in the formal, stylistic and thematic unfolding of Hollywood trailers and credit sequences, inviting questions not only about the nature of corporate branding in post-classical Hollywood, but also about how logos act upon, and can give meaning to, a film.[82] The sustained customisation and increasing complexity of logos in the computer-animated film has expanded the relationship between logos and their narrative meaning. The genre draws upon strategies of metalepsis to open up the paratextual space to invasion and corruption, creating logos that are not static and stable but moving and mobile. The sudden migration of computer-animated film characters that can fluidly move from their original context into the world of branding material, corporate logos and company signs, is a playful tangling of the world *of* which one tells and *in* which one tells. Computer-animated films use the infiltration of the intradiegesis into the extradiegesis to render its paratextual material highly unstable, making hospitable the material surrounding the fiction to the substance of the fiction itself. These are extradiegetic spaces, staged as equivalent to what Jean-Marc Limoges calls "the present world of the spectator," that is the reality of the extrafictional realm in which projection, reception and consumption take place.[83] The logos have acquired their own storytelling functions, three-dimensional narrative spaces suddenly accessible and readily occupied by characters who can now enter into a dialogue with the paratextual world around them.

The introduction of animated characters into the paratextual material is, of course, a defining feature of the computer-animated films produced by the Pixar

Animation Studios. Beginning with *A Bug's Life*, each of Pixar's feature-length films open with the anthropomorphic star of *Luxo Jr*. entering into the 'PIXAR' logo and bouncing upon the 'I' until it deflates. This kind of comical intrusion has been prevalent across many other computer-animated films. At the start of *Escape From Planet Earth*, the Weinstein Company logo is abducted by one of the film's spaceships under a beam of luminous green light and dragged out of the frame, while in *Open Season 3* (2010) an "Open Season 2" logo is mistakenly presented, only to be hastily amended by the teeth of an attentive beaver. *Cloudy with a Chance of Meatballs* and *Hotel Transylvania* have provided a stylistic modification to another familiar film emblem. The Columbia Pictures logo, depicting an unidentified woman ("Lady Columbia") carrying a torch and draped in the American flag, has undergone only five stylistic revisions in design since 1924 (the most recent in August 1993 by artist Michael Deas). In October 1989, the famous logo was unofficially co-opted for the front cover of *Newsweek* following Japanese company Sony's acquisition of Columbia Pictures Entertainment the previous month. As Laurie A. Freeman explains, "the cover contained an illustration of the Columbia Pictures logo dressed in a kimono and the bold headline "Japan Invades Hollywood!""[84] This satiric re-design of the Columbia logo reflects both its cultural recognisability, but also the novelty, spectacle and even controversy that can surround iconographic disruption. Computer-animated films have provided an alternate context in which the company's corporate identity has been refashioned, offering playful revisions consistent with the films they preface. In *Cloudy with a Chance of Meatballs*, an enlarged banana enters unexpectedly into the frame like a boomerang, toppling the Lady Columbia from her privileged position upon the carved plinth (Fig. 4.6). In *Hotel Transylvania*, the authority of the female figure is similarly upturned, transformed into a bat that flaps towards the screen before lifting up the Columbia image to reveal another company identifier underneath (Sony Pictures Animation). Comical sound effects cue

the disruption (including Lady's Columbia's shriek as she is flung from her position), matched to the unexpected fluidity of the typography. These variants present a heavily-stylised metalepsis between the intra- and extradiegesis, a tangling of existents and events in what is a highly comic textual conflation. Jonathan Alan Gray points out that paratexts routinely "take over the texts" as a result of extreme merchandising strategies; a source of revenue particularly applicable to how animated cinema has been packaged and sold to audiences.[85] The metaleptic crossings between intradiegesis and extradiegesis in computer-animated films serve to restate the value of the fiction. The computer-animated film text is able to claim fleeting superiority over the paratext, "taking over" the extradiegetic world by engaging and interacting with its content. The language of paratextuality, including images, signs and symbols, is thus implicated into the "text" through a metaleptic arrangement that blurs the distinction between narrative worlds.

Nowhere has this takeover been more in operation than across the cycle of feature-length computer-animated films produced by the DreamWorks Animation studio, which exhibits an unprecedented and widely-operational fluidity between intradiegetic and extradiegetic worlds. Discussion of the DreamWorks logo has featured in the many hagiographic accounts of the studio's origins, which treat the design of the emblem as a reflection of the creative visions of its founders Steven Spielberg, Jeffrey Katzenberg and David Geffen. For Chuck Robinson, the image of the "half moon over water, with a small child cradled therein" holds strong maternal undertones.[86] Warren Buckland, on the other hand, claims the "inspiring" image evokes facets of the American ideal, arguing that "The emotional experience that DreamWorks is attempting to convey is an idyllic, idealistic, sentimental Norman Rockwell-type image of America – that is, another universal image of (lost) childhood innocence.[87] The decision to spin-off the DreamWorks animation division into a separate company 'DreamWorks

Animation SKG' in 2004 ushered in a new direction for the company crest, extending the central feature of "transformation" by introducing dialogue and a strong comedic bent.[88] Released three weeks prior to the trading of the new division, *Shark Tale* added an anthropomorphic worm to the end of the boy's fishing rod. The sudden amalgamation of fictional spaces in this way makes the Tom Sawyer-figure, who sits in the crescent moon and casts his fishing rod below, unexpectedly complicit with the activities of *Shark Tale*'s underwater ecology. With each of the studio's releases, this figure has been subjected to a variety of tribulations that shatter the idyllic, sentimental connotations of the lunar landscape and restage the sequence for its comic potential. He has suffered an extraterrestrial abduction (*Monsters vs. Aliens*), a violent bee attack prompting his fall from the moon (*Bee Movie*), and an assault and kidnapping by an army of military penguins (*Madagascar: Escape to Africa*). Richard Burt suggests that the animated logos that begin DreamWorks animated features are "film sequences in themselves," playing at the start of the film rather than its end.[89] These sequences play between the poles of repetition and deviation, orienting focus away from the boy towards the spaces around him. In *Rise of the Guardians*, protagonist Jack Frost assumes the position perched on the crescent moon: the fishing rod now substituted with Jack's frozen staff. The entire sequence is re-animated to emphasise the visual effect of depth and dimension, with additional decor, new viewing angles and close-ups, an alternate musical score and sound effects that accompany the metaleptic intrusion of Jack into the sacrosanct space of the symbol.

Within DreamWorks' variant designs, metalepsis also explains the ways in which the studio's logo has been physically situated within the geography of the fictional world. During the opening to *Shrek the Third*, the virtual camera seamlessly descends from the production company logo down into the kingdom of Duloc. There is no visible partition designating the closure of the extradiegetic world, no fade-to-black

cueing the conclusion of the logo space. A similarly fluid camera movement achieves the same effect in *Madagascar 3: Europe's Most Wanted* and *Turbo* (2013). As Werner Wolf suggests, the paratextual DreamWorks logo "paradoxically leads directly into the intradiegetic world and thus plays with the border between reality and fiction."[90] No clear distinction exists between the world of the film and that of its promotion, and the blurring of spaces usually held distinct displaces the logo from its normal, recognisable style. However, an altogether more dynamic placing of the logo within the computer-animated film's fictional world occurs in a non-DreamWorks film. The opening to *Legend of the Guardians: The Owls of Ga'Hoole* employs swooping camerawork to pursue the airborne activity of protagonist Noctus the Owl. Noctus' energetic movement is tracked as he flies impossibly through the letters of the Warner Brothers and Village Roadshow Pictures crests (that are seemingly suspended in mid-air). Following one final pass through the film's title, Noctus descends through the clouds into the film's Luxo world (the fictional forest kingdom of Tyto). The design of this logo makes use of the "aerial panoramas and clean orchestral fanfares" that have come to characterise the newer styles of three-dimensional logo design and studio branding.[91] The film additionally demonstrates the "greater potential for the movements, zooming and narrative integration of logos" afforded by digital technologies.[92] But by finding a place for corporate identities within the parameters of the fictional world, any separating boundary between framing extradiegesis and intradiegesis is disintegrated. A paratext, in the words of Genette, constitutes a "fringe" that can control the reading of the text.[93] But through metalepsis, computer-animated characters are able to reverse such an arrangement, and it is now the text that controls the paratext.

Few limits dictate the creative possibilities of metalepsis in computer-animated films, and the logos and branding spaces of the genre have expanded the creative scope given to studios as they play with their own signatures of product differentiation. Both

Chicken Little and, most notably, *The Wild* involve instances of what might be termed verbal metalepsis. Although *The Wild*'s father-and-son duo Samson and Ryan do not visually enter the logo space, the tangling effect is connoted by the staccato movements of the Walt Disney Pictures emblem that must pause, rewind and re-start to accommodate the demands of the dialogue ("Dad, I've heard this like a billion times"). Metalepsis can also, on occasion, be intertextual, involving both the boundaries that separate a Luxo world from the spectators' real world, and those which separate individual Luxo worlds, becoming simultaneously removed. Here, the spectator sees a particular kind of intertextual transgression, in which the intradiegesis of one computer-animated film is comically tangled with the extradiegesis world of another. The newly-revised Blue Sky Studios logo that opens *Epic* now features the sabre-toothed squirrel Scrat from their *Ice Age* trilogy, who climbs the letters of the company crest in pursuit of his beloved acorn. The "Illumination Entertainment" logo displayed at the start of *Despicable Me* depicts one of the film's minion characters entering the frame, and turning to acknowledge the spectators. The minions next appeared in the logo for the studio's CG/live-action hybrid *Hop* (2011), re-enacting the film's Easter Bunny narrative, and then again before the computer-animated film *The Lorax*, where they attempt to fall a Truffula Tree growing within the logo space. The minions re-appear for a fourth time in yet another variant on the Illumination Entertainment emblem that opens *Despicable Me 2*. Each of these metaleptic transgressions relies upon spectators' intertextual knowledge, shaping their expectations but also rewarding them. These opening logos operate serially: no two narratives are the same, but rather they work in accumulation to develop the supporting characters from *Despicable Me* across multiple texts. With respect to devices of metalepsis, then, computer-animated films require spectators to not only consider what happens when two logically distinct worlds become contaminated, but also to consider the implication of an intradiegesis and extradiegesis

as they intertextually combine. Computer-animated films utilise the space of the logo as a highly creative paratextual place, functioning as a gateway that provides access into the text. Metalepsis insinuates a Luxo world into the film's promotional diegesis, bringing spectators to the film quicker by playing with the film's point of entry. These sequences give primacy to characters and introduce them prior to their introduction in the fictional world, ""bringing to life" corporate logos" in the process.[94] They also establish the motifs of entering, leaving, crossing and traversing that are central to the computer-animated film's journey narratives. Just as Barry B. Benson and Jack Frost can move freely through and across the Luxo worlds of *Bee Movie* and *Rise of the Guardians* respectively, the journeys they embark upon can take them into the world of promotional material too.

Computer-animated films also regularly disturb and upturn the paratextual material that comprises its end. David Bordwell argues that while the studio-era was characterised by a perfunctory "The End" title, it was during the 1970s that "closing credits swelled to several minutes, and filmmakers tried to energize them with a prolonged musical score and, occasionally, a continuing stream of footage."[95] This included the repetition of scenes (or entirely new ones), extended epilogues or in some cases "further bits of story action [that] may even be scattered among the final credits."[96] Computer-animated films have continued this tradition in three main ways. Firstly, the genre tends to have its closing credits unfold against the backdrop of decorative animated artwork. Burt argues that the closing titles of *Kung Fu Panda* "unfold horizontally and continuously as a remarkably long Chinese scroll, recalling the scroll that is central to the plot of the film."[97] Further examples of this practice include the black and white etchings of artist Shiyoon Kim in *Tangled*; the images inspired by art history (Paleolithic, Impressionist) that bring to a close *Wall-E*; and the custom typefaces and 2-D artwork by Nate Wragg that decorate the closing credits of

Ratatouille. *Alpha & Omega* and *A Monster in Paris* even close with the original artwork, concept art and pencil sketches from their own production processes, while *Mars Needs Moms!* achieves a similar effect by decorating its credits with behind-the-scenes motion capture footage. Within this creative practice, it is also not unusual for computer-animated films to include post-credits scenes as additional narrative content, with integrated epilogue scenes a highly favoured resource. *Shark Tale*, *Flushed Away*, *Kung Fu Panda*, *Despicable Me*, *Cars*, *Happily N'Ever After*, *Rise of the Guardians*, *The Croods* and *Monsters University* all include bonus postscripts that reward spectators' prolonged viewing. When the Disney logo is repeated at the climax of *Wreck-It Ralph*, the pristine digital image pixelates, and the orchestral fanfare stutters to an abrupt halt. The malfunctioning image becomes, in videogame terminology, a "kill screen" or a point in the game that randomly freezes and crashes as a result of a software bug, thus preventing the player's progress.[98] But these kinds of cartoon codas may serve alternate purposes, used to develop connections between films; establish the terms for a sequel (*Shrek 2*, *Toy Story 3*), and award closure to individual and incomplete narrative arcs (*Megamind*). They can reiterate or expand upon motifs in the film (*Brave*), or simply add visual decoration. For example, *Monsters, Inc.* includes an additional scene in which protagonists Mike and Sulley perform a musical based on the film's own narrative. *Happy Feet Two* concludes with the gradient circles familiar from the Looney Tunes logo, a design first premiered in the Friz Freleng cartoon *I Wanna Play House* (1936). The recollection of Golden Age-era artwork even extends to rehearsing the typography of "That's All Folks!", the signature line (st)uttered by Porky Pig that is simultaneously written out in script at the end of most Warner Brothers cartoons.

The third way that computer-animated films expand their closing credits has been to draw once more on metalepsis to mingle the closing credits with the playful

activity of characters. Closing credits become no longer just a list of involved personnel, or "indispensable sources of information in historical and ethnographic research on the film industry and film production."[99] In the computer-animated film, they function as continuations or extensions of the fictional world. Many of the genre's characters interact with the listed names: they hang off, dance around, through and on the credits, tilting, squeezing and pushing them to one side, or dragging them offscreen to provide space for their own performance. These kinds of sequences are typically framed against the backdrop of an ensemble musical performance that is staged to provide a more self-conscious context for the metaleptic spectacle. As the credits roll in *Madagascar*, *Flushed Away*, *Shrek the Third*, *Horton Hears a Who*, *Igor*, *Chicken Little*, *Ice Age: Continental Drift*, *The Ugly Duckling and Me*, *Rio*, *Happy Feet*, *Shrek Forever After* and *Puss in Boots*, musical accompaniment allows the characters to respond to an extradiegetic soundtrack, dancing and singing along to the music (often unsuccessfully) as they intermingle with the closing names. In his account of metalepsis in animation, Feyersinger is reluctant to call such acts of paratextual interaction metalepsis. He argues that the climax of *Finding Nemo*, in which the film's main aquatic cast swim around, hang from and stare longingly at the scrolling credits, is "not proper metalepses" because there is "no direct transgression of the diegetic border."[100] With minimal sense of invasion from one diegetic world to another and no perceivable 'edge' of the frame to cross, spectators, he argues, "are facing two separate, non-continuous versions of the characters, which may or may not have a metaleptic influence on each other."[101] Although spectators are not placed as witness to the act of transgression, these closing credit sequences do have metaleptic qualities. Spectators assume a degree of continuity between the intra- and extradiegetic worlds having the move across these fictional frames made visible. In the case of *Finding Nemo*, the characters' recognition of the scrolling names provides a metaleptic bridge between the film's intra- and extradiegesis.

When *Monsters, Inc.* and *Monsters University* protagonist Mike Wazowski briefly joins *Finding Nemo*'s aquatic cast in the closing credits, his intertextual presence reinforces the character's fluid movement across fictional frames. With each of these examples, then, the intradiegesis of the represented computer-animated storyworld emphatically collides with the corporate content. Much like Pat Sullivan and Otto Messmer's *Felix the Cat* (1919-) cartoons, in which the eponymous hero could playfully entice the creative hand into the frame to graphically change the circumstances of the fiction, computer-animated film characters are able to communicate—albeit non-verbally—with their multiple creators. The flow between two narrative worlds reflects how computer-animated films begin before the narration sets in, and continue long after its resolution. There is always more to see in a computer-animated film than that which can be contained by the text's running time, and characters are welcomed effortlessly into its paratextual fringes.

Computer-animated films play with where they begin and end, not just through the treatment of their own beginning and endings, but with the formal limits and threshold of the computer-animated image. Their narratives turn to metalepsis to engage with the parameters of "film" and "not film."[102] In the final shot of *The Wild*, Bridget the giraffe becomes trapped by the iris-in technique that constricts around her neck ("What are you doing this for? What, do you think this is funny?"). Such surprising interactions with the traditional elements of film form implicate computer-animated film comedy within the lineage of Golden Age American cartoons. Throughout the Looney Tunes series, characters were able to quickly jump through the iris as it closed (as in Avery's 1938 short *Cinderella Meets Fella*); have it suddenly reopen to finish the story (*Ballot Box Bunny*, Freleng's 1951 Bugs Bunny cartoon) and even tear it to shreds if it was deemed to close too early (*Duck Amuck*, released in 1953). In computer-animated films, however, other formal conceits set the stage for such comic interaction.

These include the black matte bars that run horizontally along the top and bottom of the film image (defined as 'hard' mattes when achieved in filming and 'soft' mattes in projection), or in the 'letterboxing' process which involves adding masked black bars in home-video transfer (as a product of conversion). Computer-animated films prime these mattes for comedy, absorbing the aspect ratios into their playspaces by fooling around with the symmetrical proportions of the widescreen format. The thick frame lines are co-opted through metalepsis into becoming physical props. In the final shot of *Monsters vs. Aliens*, the hapless and impulsive President Hathaway leans out of the black matte bars that frame him, gripping the lower bar of the widescreen effect as he unexpectedly addresses the spectator. The effect of this moment re-conjures something of Spanish artist Pere Borrell del Caso's *Escapism Criticism* (1874), which depicts a young boy mounting the (fictional) painted frame to (fictionally) burst the confines of the pictorial space. In del Caso's painting, the young lad is, as Bruno Breitmeyer puts it, "as much astonished at the view of the "real" world outside the (painted) frame of the picture as we are at the artful depiction of the illusory three-dimensional escape scene."[103] The erection of fictive frames has since been repeated in the recent teaser trailer for *Rio 2* (2014) in which bulldog Luiz (with a penchant for drooling) extends his neck and tongue beyond the matte bars. Most notably, however, this comic device forms the basis for the entire closing credits to *Despicable Me 2*. Just as *Duck Amuck* chronicles the futile attempts made by Daffy Duck to "cope with the sheer weight of the black background scenery which falls upon him like a heavy awning," *Despicable Me 2* collapses the matte bars around the activity of the minions.[104] The minions prise open the seemingly heavy bars, reaching out towards the audience to trespass beyond the reality of their fiction and into the extradiegetic world of the videographic image. Teetering on the edge of the matte bars, the minions then fall out into the abyss, suddenly occupying a liminal space that is both film and not film, supposedly beyond

the reaches of the fictional world, but at the same time still somewhere between the world of the film and that of the spectator (Fig. 4.7).

Such ruptures in spatial continuity also maximise the effects of 3-D, which has become a staple of theatrical exhibition for computer-animated films since *Up* and *Monsters vs. Aliens* were the first to be produced in the stereoscopic format (rather than retrospectively converted). Barbara Klinger argues that contemporary Hollywood cinema mobilises a regularized, "codified repertoire" of stylistic elements designed to exploit 3-D's signature effect, that of the illusion of depth along the Z-axis (an effect achieved through "negative parallax").[105] The treatment of the matte bars in computer-animated films is certainly devised with the visual splendour and excitement of stereoscopic 3-D in mind, as characters reach or 'pop' out in ways that capitalise upon the extra dimensional volume of the diegetic world. Indeed, the "*Toy Story* and *Toy Story 2* in Disney Digital 3D" promotional advertisements (released to coincide with the theatrical release of *Toy Story 3*) aggressively deliver the technique. Buzz Lightyear appears beyond the matte bars, vaulting over them to enter the film's Luxo world. The playing of foreground and background in this way spotlights the heightened "spaciousness of space" afforded by 3-D's accentuation of character protrusion or extension.[106] However, the metalepsis central to this technique also offers a familiar rhythm to the computer-animated film genre in which nothing of the extradiegesis is safe or sacred.

Metalepsis yields an unexpected spatial proximity between a computer-animated film's Luxo world and the framing world of corporate logos, both staging and affirming the boundary that separates them whilst simultaneously transgressing it. But what else can be said about this inclination towards metalepsis as a device of comedy? How might the fact that computer-animated film characters interact so frequently with the paratextual world around them be interpreted? One answer is that the collapsing of

textual boundaries momentarily draws upon and reworks conventions of the "deconstructive" cartoon. Such cartoons encourage the spectator to critically observe and playfully laugh at the material components of the cartoon, unpicked, fragmented and exploded before their eyes. The grammar of cartoon syntax is reduced to its basic constituent parts, revealing the premises and processes of its construction. From Winsor McCay and J. Stuart Blackton, through to the deconstructive cartoon's maturity at the hands of Avery, the world of the cartoon is regularly shown to be unstable. It can be rubbed out, erased and effaced, broken. In *Lucky Ducky* (1948), for example, a colour short made by Avery, two dogs chase a young duck past a signpost reading "Technicolor Ends Here" into a sudden black and white landscape. The comedy lies in the sudden absence of animation, of space and (obviously) colour. The animated screen space of *Duck Amuck* is no less uncertain and unstable, and the offscreen animator (later revealed as Bugs Bunny) not only removes the animated backdrop and its sound (prompting Daffy to fashion a "Sound Please" sign), but also eliminates features of Daffy himself, whether it is his beak or his entire body, leaving just a voice (but no mouth). As Aylish Wood suggests, the cartoon space of *Duck Amuck* is defined by its "blankness," a lack of space that prompts Daffy's inaction and inability to complete the demands of the "narrative situation."[107]

By comparison, the deconstructive elements of the computer-animated film contribute to an intensification of presence rather than absence. This is a genre that uses up its screen spaces and more: nothing is a remainder, but everything is potentially available. Metalepsis expands the genre's fictional worlds, instead of abridging, restricting or confining them. Computer-animated films continually incorporate their extradiegetic environments into a Luxo world, turning them into extended performance spaces. The events they reveal may not be intrinsically funny, but the characters' abilities to intrude and impress themselves onto another world holds distinct comic

possibilities. At these moments of metalepsis, computer-animated films engage with the presence of screens and boundaries, partitions and separations, and invite spectators to reflect upon the potential of the genre to surmount such limitations. But the genre extends, further still, the parameters of the "deconstructive" cartoon, playing not only with the possibility of an extradiegetic or extra-filmic identity for its characters, but with the very illusionist properties of the films themselves.

Despicable them: the Mannerist games of computer-animated films.

> [Mannerism] was an art of intellectual contortionism.[108]
> ---- Kay Larson, "Comedy of Mannerism," *New York Magazine*, 24th August 1987
>
> If the image is ontologically false, there is no point resisting this falseness. You may as well make the most of it, and get the best out of it – that is, its theatricality.[109]
> ---- Alain Bergala, "Le Vrai, les faux, le factice"
>
> Films are breathtakingly perched between the unequivocal reality of the photographic process and a style that is by definition magnifying, hyperbolic, and utterly frivolous in its relationship to everyday modes of perception. It is as if some great mannerist canvas were suddenly animated with breathing, moving, speaking creatures, as if its plays of perspective were limitlessly variable and the boundaries between configuration and existential realities were freed from the conceits of illusion.[110]
> ---- Charles Affron, "Generous Stars"

Approximately eight minutes into DreamWorks' computer-animated film *Monsters vs. Aliens*, a mysterious government van arrives at a Wedding Chapel to assess the crash site of an unidentified alien spacecraft. Numerous operatives exit the vehicle, each one framed below the waist to preserve the faceless identity of the anonymous organisation. As the ominous doors of their van swing shut, and almost imperceptibly to the spectator, a film crew is briefly caught reflected in the vehicle's shiny black finish. A boom mic operator is crouched on his knees, behind which stands a row of figures observing the unfolding action. Designed to reward spectators' particularly attentive viewing, this discreet detail plays with the illusion that the digital veil has momentarily slipped to expose the concealed seams of the film's construction. Except, of course, the sudden visibility of recording equipment and crew plays no such role in any process of revelation and disclosure. *Monsters vs. Aliens* only purports to unpick the terms of its illusion, resisting the truthful reveal and instead playing with the common set of assumptions shared between spectator and animator around the production of computer-animated films. The "anti-illusionism" of this gesture is consciously staged, made

contradictory or *allusive* in the sense that there is no real commitment to an anti-illusionist project. Norman Klein argues that "for studying cartoons, anti-illusionism would include virtually every animated short, almost every gag, and so is not a very useful tool."[111] But the computer-animated film frees anti-illusionism from any obligation to divulge the proper techniques of its image-making processes, instead aggregating and associating new meanings around the unique illusionary properties of the genre. Spectators, by extension, consent to this act, becoming party to tricks that depend on their knowingness for the comic function of the gag to be fulfilled. They remain entirely aware that the fictional world of *Monsters vs. Aliens* has not been produced by filmmaking equipment suddenly made visible in supposed error, and that the gesture of exposing the illusion has been engineered for comic effect. The post-cinema life of the computer-animated film schools spectators in its production methods, often inviting them to acquire a systematic appreciation of the work of animation that unfolds behind-the-scenes. The camera apparatus and film crew spotted in *Monsters vs. Aliens* is a self-conscious gesture that cultivates the artifice, adding humour and intrigue to a Luxo world by bringing out a comic contradiction between the grammar of the computer-animated film and the methods of live-action. Noël Carroll argues that artwork classed as illusionist is never unmediated by its conventions.[112] But computer-animated films stage their anti-illusionism as a comic flourish to keep spectators at a distance, preserving the disclosure of the genre's illusion as itself an illusory act. But this chapter makes the argument that such falsified or *allusive* anti-illusionism can also be understood as a specifically Mannerist gesture.

Derived from the Italian *maniera* meaning idiosyncratic touch (borrowed from the French *manière* to define 'look' or *savour-faire*), the Mannerist style (*manierismo*) intervened between the Classical antiquity of Renaissance artwork and the later Baroque period. According to Ann Kay, Mannerism's main quality "was less a single, coherent

style than a new self-consciousness about style itself as a distinct and personal entity."[113] Or, as art historian John Shearman suggests, "It is, in a phrase, the stylish style."[114] Mannerism has been used to discuss a specific type of filmmaking practice in which style, as Adrian Martin puts it, "performs out of its own trajectories, no longer working unobtrusively at the behest of the fiction and its demands of meaningfulness."[115] If a Classical film style can be seen as self-effacing and balanced, then Mannerist style has been viewed by scholars as a love of complexity, confidently flaunting its restlessness and self-knowing skill in visually arresting ways. Embellishments and exaggerations are accented, style becomes substance. Ginette Vincendeau points out that "Mannerism is usually associated with more baroque film-makers," and in the context of French cinema with the technical bravura and artistic virtuosity of film-makers of the *cinéma du look.*[116] The stylistic decadence and flamboyancy of *Diva* (1981), *Subway* (1985) and later *Les Amants du Pont-Neuf* (1991), celebrated the artifice of "non-naturalistic self-conscious aesthetics."[117] Evidence of cinema's Mannerist tendencies appears elsewhere in studies relating to specific genres (film noir, pop music film, heritage drama and period film), the ostentatious authorial style of particular film-makers, and certain contemporary filmmaking devices such as intensified continuity editing that, as David Bordwell puts it, functions as a mannerist revision of classic continuity.[118]

The forthright self-conscious address adopted by the computer-animated film and its comedy of *allusive* anti-illusionism can be considered highly 'Mannerist' in its invention. For Arnold Hauser, the essence of Mannerism lies in its tense preservation of irreconcilable poles of "classicism and anti-classicism, naturalism and formalism, rationalism and irrationalism."[119] Maintaining the odd rhythms of these pairings produces, he argues, a strange and stimulating paradox, a witty "conjuring trick" performed by Mannerist artists. The wit of Mannerist play, and the odd appearances it produces, is a pairing of extremes without hierarchy, eliciting a feeling of estrangement

in the viewer. The emphasis in Mannerist appearance is "the obscure, the problematical, and the ambiguous, the incomplete nature of the manifest which points to its opposite."[120] As Maria Rika Maniates suggests, "Mannerism wants to startle."[121] It is, perhaps, the strangeness of Mannerist art that explains why Mannerism in the context of animation has tended be associated with a certain type of filmmakers. The work of sixteenth-century Italian Mannerist artist Giuseppe Arcimboldo best illustrates this tendency. Produced during his time at the Imperial Court in Prague, Arcimboldo's joke (*scherzi*) portraits—that includes *The Jurist* (1566), *Vertumnus* (1590) and the *Four Seasons* series (1573)—are nightmarish collages depicting human physiognomies through an assemblage of flora, fauna, fruits and vegetables, carefully arranged into a playful, if monstrous, teratology. These composite heads have fuelled the imagination of Czech animator Jan Švankmajer and, more recently, the Quay Brothers, whose stop-motion film *The Cabinet of Jan Švankmajer* (1984) features a three-dimensional puppet version of Arcimboldo's *The Librarian* (1566) as its protagonist.[122]

Thomas DaCosta Kaufmann points out that since the 1950s, Arcimboldo has emerged among art historians "under the banner of visual jokester."[123] However, the unsettling effects of his comical homunculi (and the rhetorical schemes that structure his fascinating portrait paradoxes) help illuminate the Mannerist register of computer-animated film comedy. The genre's humour is a playful *contaminatio* of live-action and animation, an exercise in rhetorical excess that accumulates non-digital, analogue technology as a means of computer-animated film illusion. Mannerist *contaminatio*, as Robert K. Gross explains, is a response to "aesthetic belatedness" and a defence against the Mannerist fear that "all the good stories have been told already, and told well."[124] *Contaminatio* works through degrees of invention and formal contrivance in pursuit of greater complexity and novelty, using stylish technique and artful amalgam to yield innovative combinations. Mannerism in the computer-animated film is not divorced

from function, nor does it operate autonomously or as a "distracting" trick. The inventive Mannerist quality of the genre works in combination with metalepsis to extend the vocabulary of the deconstructive cartoon, injecting new codes and conventions that play with the believability of its characters and the construction of its worlds. Indeed, Liliane Louvel argues that "As in narrative metalepsis, the *trompe-l'œil* produces a discourse of interruption," whilst adding to its destabilising effects a heightened self-reflexivity in that it functions "as a veritable finger pointed at itself."[125] The deconstructive cartoon normally attains its comic impact by self-consciously divulging its means of production, exploring the work of animation and the artifice of its invention. Computer-animated films craft a greater distance between deconstruction and deconstructed, not reflecting inwardly on its own animatedness but presenting itself openly as a constructed reality or simulacrum. As part of what Louvel calls the "triumph of Mannerism," a *trompe-l'œil* traditionally aims "to deceive, to cheat—to present lies and simulacra as truths."[126] But the revelation of the genre's *trompe-l'œil* effect is itself a *trompe-l'œil,* and it is this 'doubling' that is foundational to the computer-animated film's Mannerist "tone." Douglas Pye has suggested that tone can be understood in terms of a film's implied "affective orientations." Tone refers to the manner in which a film "addresses its spectator and implicitly invites us to understand its attitude to its material and the stylistic register it employs."[127]

Key to how the Mannerist style and tone of the computer-animated film is secured is the specific treatment of its virtual camera. Developments in algorithmic data continue to enable virtual cameras to mimic the behaviour of the real apparatus beyond its position, perspective and direction. Programs such as Pixar's proprietary RenderMan software have produced an increasingly sophisticated aesthetics of photorealism, incorporating the motion blur of fast-moving objects during the exposure of film, and accurately reproducing depth of field. Such has been the development in virtual camera

systems that animators now meet the demands of a role similar to a director-of-photography in live-action film. The involvement of renowned British cinematographer Roger Deakins as visual consultant on the computer-animated films *Rango*, *Wall-E*, *How to Train Your Dragon*, *Rise of the Guardians*, *The Croods* and *How to Train Your Dragon 2* (2014) was not only to contribute colour key reference points, checking lighting effects and intensity within the film's luminous Luxo world, but also coaching animators in the fundamental principles of live-action cinematography. The computer-animated film's additional capacity to simulate image-making processes from cinema and photography, including features such as lens flare, implies that a mistake in a live-action film becomes a mark of credibility in a Luxo world. Lens flare is a simulated optical effect built into the computer software, designed to replicate the moment at which "the virtually created "camera" turns towards the sun or other depicted light source."[128] It appears with striking regularity across the genre, reconstructing the lens-based photoreality of live-action cinema. For example, a lens flare marks the very first shot of *Happy Feet Two*, and is a moment of "cinematic detailing" that adds drama to Tintin and Snowy's visit to the library under the cover of darkness in *The Adventures of Tintin*, and Mike Wazowski's momentous arrival on campus in *Monsters University*. As Lisa Purse suggests, the "recent trend" for digitally-generated lens flare is not only a homage to celluloid cinema, but "has the advantage of lending a photorealistic, illusory verisimilitude to digital effects shots."[129] Photorealism as a descriptor attests to the technical virtuosity and innovation of computer software that has the capacity to (often flawlessly) simulate images that appear to be photographic. But it tells us nothing about the comic potential of such imagery, and how the photographic qualities of the simulated film-based image (as filtered through a lens) have been exploited for their comedy. The 'Mannerist' camera of the computer-animated film draws, however, on the virtual apparatus' simulated properties for the specific purposes spectatorial amusement. Its

(impossibly) flat, (fictionally) planar surface is employed to connote the presence of a camera situated within a Luxo world in the 'live' act of filming. Best remembered in this spirit is the twenty-five second epilogue to *Cars*, a sequence that exhibits the kind of self-consciousness of style at the cornerstone of Mannerist composition. The premise to this brief postscript is simple. An insect car flies unwittingly into the camera's lens, causing the anthropomorphic vehicle to recoil in dazed shock and a smudge from its blue paintwork to materialise on the apparatus' 'glass' front. The humour of this sequence is rooted in the seemingly erroneous error caused by a moment of unscripted action, which would otherwise corrupt the illusionist quality of the fiction. By opening out its virtual camera to unprecedented physical assault, *Cars* manipulates the fixed distance between diegesis and spectator, playing with the camera as a figure of separation that partitions them off from the fictional space (Fig. 4.8).

Within the fictional worlds of the computer-animated film, the identity of the Mannerist camera is predicated upon its abilities to withstand undue assault. Its position is made perilous by the conditions of the fictional space in which it is placed, including those accidental, often spontaneous "errors" that may occur within the hazardous environment of a film set. In two computer-animated films released in 2009, the Mannerist camera is again signalled by an unexpected acknowledgement of its diegetic presence. During *Ice Age: Dawn of the Dinosaurs*, a spot of snow is thrown against the camera's lens during a frenetic chase sequence, whilst in *Cloudy with a Chance of Meatballs*, a snowball fight (actually ice-cream) prompts a similar covering of the apparatus. The camera in *Cloudy with a Chance of Meatballs* does not belong to the diegetic camera crew who are filming the adverse weather conditions for a local television station Weather News Network. It is an objective camera located in the fictional town of Swallow Falls. The accepted distance between spectator and the computer-animated fiction is again interrupted by debris, which accidentally sticks to

the camera lens to impede the clarity of the shot. The impenetrable lens of the Mannerist camera continues to be the ideal surface upon which to exhibit the viscosity of an array of products. The camera's surface is again obscured in *Cars 2*, accidentally splashed with water by Red the fire truck. In *Tangled*, the imprisoned Rapunzel indulges her stifled creativity by painting directly onto the camera lens, providing her own decoration to transform the interior of the tower into her own art studio. Blood splatters onto the camera's lens during one of the frenzied attacks by the monstrous Grendel in *Beowulf*, and the final shot of *9* embellishes the computer-animated film screen with raindrops that perceptibly glow green to signify the bacteria that will hopefully return life to the film's devastated city. A common feature of computer-animated films, however, is to contort its characters against the camera's planar surface to further augment the comedy of their bodies. The final shots of *Over the Hedge* and *Open Season* both utilise this technique, having characters hit the camera before slowly sliding down the lens and out of shot. The Wile E. Coyote/Road Runner computer-animated short *Coyote Falls* (2010) also closes with this device. By squashing the Coyote up against its lens, the film appends the virtual camera to the wealth of malfunctioning goods (usually made by the ACME Company) that are normally the cause of the coyote's physical pain. In a humorous account imagining a hypothetical court case between Wile E. Coyote and the ACME company, Ian Frazier writes, "Mr. Coyote states that on eighty-five occasions he has purchased of the Acme Company through that company's mail-order department, certain products which did cause him bodily injury due to defects in manufacture or improper cautionary labelling."[130] *Coyote Falls* adds its own virtual camera to this lengthy charge sheet.

Numerous scholars have already looked to European art history for a vocabulary for discussing the camerawork of contemporary or New Hollywood cinema. The visual pleasures afforded by digital technology have more than once been associated with a

post-Mannerist, Baroque mode of address.[131] Sean Cubitt, for instance, describes "neo-Baroque" mobile camerawork (and digital compositing) that promotes heightened "vectorial movement" and results in a decorative structuring of screen space.[132] While this kind of fluid camerawork is both achievable and visible across the computer-animated film, there is a distinction to be made regarding its primary narrative function: one that offers an important corrective to the bypassing of Mannerism within these kinds of discussions of digital camerawork. The Mannerist camera of the computer-animated film is confined in its placement rather than in constant movement. It is not characterised by extreme travels through virtual space, but by stasis and stationary belonging. Its comic intentions are signalled through its virtual presence as a material camera, which inhabits the same intimate space as those objects and forces in the fictional world that can affect it. The "neo-Baroque" and Mannerist styles can certainly coexist and share the same computer-animated film. But the latter privileges surface over depth to secure its desired comic effects.

Another primary feature of the Mannerist camera is the stress that is placed on its unreliability as a recording instrument. Computer-animated films regularly spotlight the technological capabilities of the fictional apparatus and the mechanical properties of film, but do so by playing on the errors involved in their production, projection and exhibition. Sony Pictures *Surf's Up* exploits the audiovisual rhetoric of the fly-on-the-wall documentary and the hallmarks of its observational verité-style to anchor the frailty and fragility of the film apparatus within the film's Luxo world. Documenting the fictitious "Big Z Memorial" annual penguin surfing contest, the film is a parody of the wave of popular surfing documentaries *The Endless Summer* (1996), *Step into Liquid* (2003), *Billabong Odyssey* (2003), *Second Thoughts* (2004) and *Riding Giants* (2004), and thus enters the hitherto unexplored terrain of 'animated mockumentary.' Featuring talking head interviews, 1970s-style still photographs (Polaroid, instamatic), personal

video diaries and found footage, *Surf's Up* crafts a visual style utilising temporal ellipses, hand-held camerawork, intermittent audio, and verbal interaction between anthropomorphic penguin characters and documentary crew (including the 'real' directing duo of Chris Buck and Ash Brannon). Indeed, the film substitutes the "hand of the artist" trope foundational to animation's "deconstructive" tradition for the "voices of the film-makers," exchanging one offscreen authorial figure for another drawn from the familiarity of documentary filmmaking. The visual design of *Surf's Up* was intended to support its documentary flavour and lend credibility to its events as if captured in real-time.[133]

In at least two scenes of the French computer-animated film *The True Story of Puss 'N Boots* (2011)—re-dubbed for an English-language release—the camera perceptibly wobbles as the eponymous Puss speeds past the frame, as it also does during certain action sequences in *Jimmy Neutron: Boy Genius*. Stephen Prince has described the increasing sophistication of the virtual camera with reference to *Wall-E*'s "subliminal" replication of anamorphic lens defects and curvature, depth of field and focal lengths, as well as "horizontally spiking lens flare."[134] Twenty minutes into *Wall-E*, however, the action becomes abruptly emancipated from conventional framing and prior invisibility, and as the robot protagonist is chased by runaway shopping trolleys (whilst covertly spying on love interest EVE), the camera inexplicably loses its focus, before quickly readjusting and zooming into its mobile subject. At this moment, the virtual camera suddenly attains an operator, implying recording equipment mounted (and controlled) from a position somewhere in the fiction. Spectators must therefore not only be attentive to the fictive situations crafted for their amusement, but towards the false exposures of filmmaking apparatus suggested in this totally fictional reproduction.

With respect to virtual cinematography, computer-animated film comedy has maintained one tradition of the earliest cel-animated shorts. In the Popeye cartoon

Goonland (1938) (later remade in 1951 as *Popeye's Pappy*) a scuffle between the animated characters results in the film cel containing the animated action breaking in two. With Popeye and his father Poopdeck Pappy hanging perilously from the sprocket holes, the hand of the animator is forced to enter the frame to affix the cel together so that the cartoon can continue. The Tex Avery short *Dumb-Hounded*, as well as its remake *Northwest Hounded Police* (1946), also explores the spatial limitations of the film cel. Featuring Avery's recurring Wolf character as a prison fugitive unsuccessfully trying to escape a multitude of Droopys, the Wolf is briefly chased off the edges of the film cel, scurrying back onto the colour image from the bright white margins. Another Avery short *Aviation Vacation* (1941) even traps a fake hair within the gate of the projector. This gag would be repeated in the cartoon *Magical Maestro* (1952), but this time a canine opera singer Poochini eliminates the rogue hair rather than the silhouetted hand of the projectionist. Computer-animated films rarely break the fourth wall in such a flagrantly self-conscious manner, though the final sequence of *A Christmas Carol* has Bob Cratchit openly acknowledge the spectators' presence (thus rhyming with Dickens' opening address to the reader in the original 1843 novel).[135] Yet the genre has pursued the comic conceit of its own perishability, including the fragility of the film strip. The opening shots of *Monsters vs. Aliens* and *Surf's Up* show the film jamming inside the projector: as the action onscreen flickers, the whirring sound of the film strip running through the machine's gate accompanies the intermittent image. In *Monsters vs. Aliens*, the film strip then burns away to reveal the first image. *A Monster in Paris* and *Happily N'Ever After* also begin in this disruptive way, though in the latter case, the celluloid's slipping (to reveal the sprocket holes) is less accidental (Fig. 4.9). The film is paused, rewound and replayed anew at the behest of an omniscient narrator Rick ("let's go back a little"), so that it appears as if events are unfolding live in projection. The closing credits of *Despicable Me* add to the illusion by firing the minions from a rocket out of

the film screen, to impossibly enter the projection room and burn away the filmstrip. The situation is salvaged as the bright white light provides the ideal backdrop for the minions' spontaneous shadow puppet show.

Such comic flourishes can be viewed through the lens of Mannerism. They share with an older period of Mannerism a predilection for *trompe-l'œil* illusion effects and, in particular, the 'animation' of real space through persuasive architectural illusion. Describing painter Giulio Romano's fresco *Sala dei Giganti* (1524-1534) on the Romano-designed Palazzo de Tè villa in Mantua, Italy, art critic Linda Murray explains how it depicts figures apparently struggling to hold up the pillars that support the surrounding Palazzo, creating the illusion that the structure is in the process of collapse. Their bodies are positioned in convoluted, spiral poses, twisted into exaggerated and unnatural configurations. Murray describes the Sala dei Giganti as the "the epitome of Mannerist decoration – this blend of the real and the false, of the witty, sophisticated and amusing in the imagery [...] the contrast between the consciousness of the solidity of reality and the imaginativeness of the terrifying carnage on the walls."[136] The crumbling masonry, falling keystones and slipping triglyphs portrayed in the *Sala dei Giganti* establishes a contradiction between the disingenuous façade and the structural integrity of the building. The result is a "self-referential mannerist game for the benefit of a well-educated humanist court."[137] Computer-animated films create their own comic "carnage" by setting up an opposition between what they show (mechanical errors) and how they have been made (digitally). The strategies of imitation charm the spectators' eye by visually rupturing and corrupting the computer-animated film's surface: *trompe-l'œil* errors announce the genre's artifice, and invite spectators' appreciation of the means of representation itself.

Mannerist art has been defined as a "phenomenon of conscious self-deception," and computer-animated films are particularly invested in the playful tricks of illusion.[138]

But the *trompe-l'œil* details lacing the genre, particularly those localised around its virtual camera, suggest another common heritage between Mannerism and animation more generally. Hand-drawn animation relies upon significant spatial cues, and the convincing creation of depth through forced perspective, planes of composition, horizon lines, and vanishing points, to enable spectators to attribute dimension to flat cel-animated worlds. The advent of computer graphics and digital imagery has certainly extended the spatial and depth cues of the animated film. Computer-animated films are seductive spaces replete with a multitude of *trompe-l'œil* effects that play a game with the real by showing how reality can be convincingly staged as a combination of animator expertise and the sophistication of modern modelling programs. The 'fool-the-eye' work of animation and its *trompe-l'œil* effects was famously invoked (and ultimately upturned) in a gag that emerged as a staple of the Wile E. Coyote and Road Runner cartoons, and featured in the duo's very first short directed by Chuck Jones. In *Fast and Furry-ous* (1949), the hapless Coyote paints a convincing cartoon tunnel on a sheer rock face, hoping to entice the Road Runner to run headlong into the solid wall, only for the intended victim to impossibly cross the threshold and enter without hesitation into the image and to safety. Wile E. Coyote is a skilled artist, a master of pictorial illusion whose phony tunnel painted on the rocky canyon walls is an achievement of verisimilitude. It is the Road Runner who confuses the terms under which spectators are to understand the illusion. He defies naturalistic laws by exchanging a flat image for a three-dimensional space that he can seamlessly hurtle into (the Coyote's own attempts at passing into the image prove futile). Computer-animated films are complicit in the same kinds of strangeness engendered in these cartoons. The genre sources the volumetric depth of its illusionistic worlds, and the rich three-dimensionality of its spaces, for comedy by disclosing the terms of the illusion at the same time as they are withheld. Mannerism, as Barbara Bond suggests, "employs

contraries" and the computer-animated film's predilection for systematically dismantling the convincing illusion of its images through non-animated, typically live-action means only, cultivates the genre's artifice, rather than punctures it.[139] Like the Coyote standing perplexed at the Road Runner's seemingly impossible entrance into his own animated image, the puzzled spectator delights at the accomplishments of the genre's computer-animated film worlds, all the while left wondering with increasing fascination as to how it was really done.

In computer-animated films, the inclusion of feigned blooper reels and outtake material maintain the genre's "stylish style" of Mannerist masquerade. Beginning with *A Bug's Life*, and continuing in *Toy Story 2*, *Final Fantasy: The Spirits Within*, *Monsters, Inc.*, *Jonah: A Veggietales Movie* and *Barbie in a Mermaid Tale* (2010)—as well as Jugal Hansraj's *Roadside Romeo* (2008) and *Terkel in Trouble* (2004)—many computer-animated films have utilised fictional behind-the-scenes exposés to place spectators as supposed witness to the logistics of computer-animated film production.[140] Frank Eugene Beaver argues that the particular fascination of blooper or 'gag' reels lies in "what it can reveal about actors and the filmmaking process, often in very human or humorous ways."[141] Computer-animated films extend the limits of such fascination through the humour of false disclosure, and the discrepancies innate to this *trompe-l'œil* device. Constructed sets, artificial lighting rigs, and camera set-ups are all comic tools in the genre's intention to deceive. Ornate painted matte backdrops further sustain the fooling encounter. Like the Coyote's pictorial illusions, flatness and depth are bound together through the illogical alignment of two-dimensional and three-dimensional worlds. The computer-animated film world is staged as fragile and fallible, prone to mishap. It is an unflattering space where 'actors' embarrassingly extemporise and require rehearsal time, and directors lament the danger of losing the light. The bloopers typically take as their subject the unreliability of mechanical reproduction, revealing the

false seams of the pro-filmic illusion, and the recording camera that is smudged, knocked or even toppled from its tripod. These fictional mistakes substitute for the types of technological faults and graphical errors that can arise in the 'real-life' production of computer-animated films, resulting in, for instance, the separation of characters from their clothes, over-extension of body parts, or a grotesque curvature and monstrous contortion in the faces.[142] But the outtakes also introduce new concerns, such as the ineptitude and amateurism of the animated actors, including their inability to deliver lines of dialogue, uncontrollable laughter or a general clumsiness that belies their usually fluidity of movement. As David Bell puts it, "Special effects don't make mistakes, but can be made to make mistakes," and a computer-animated film world is a space where bad acting is deliberately allowed to occur (Fig. 4.10).[143]

The upshot of the computer-animated film blooper reel, and the surplus material allegedly excised from the film's final cut, is the impression of a character's existence outside the narrative world. Within computer-animated film comedy, there is a new emphasis on *selves* and *persons* rather than *cels* or *pixels* as the source of computer-animated film illusion. There are two strategies used to achieve such an effect. First, bloopers function as another site of intertextuality. Computer-animated characters freely trespass from one film to another. Woody appears during the outtakes in *A Bug's Life*, while Flik and Heimlich return the favour in *Toy Story 2*, reappearing under the (wrong) assumption that they are starring in "A Bug's Life 2." *Toy Story*'s Rex the Dinosaur also appears in the outtake material of *Monsters, Inc.* auditioning for a role as one of the film's monstrous characters (enquiring "do I get the part?" when the scene is finally cut. He doesn't). Computer-animated films also play with the possibility that their characters possess a consciousness in advance of their screen role, and that they are capable of independent thought and behaviour. For example, the blooper reel that closes *Toy Story 2* crafts a particular kind of working relationship between Woody and Buzz that is

absent from their on-screen, diegetic pairing. Multiple 'takes' are ruined by Woody's mischievous behaviour, as he terrorises Buzz using a series of increasingly outlandish practical jokes (pulling faces during a scene, drawing "This Space For Rent" on Buzz's plastic wings). While the neurotic personality of Rex is both sustained and developed in the *Monsters, Inc.* bloopers, the outtake material of *Toy Story 2* shows spectators a Woody unlike the heroic persona he otherwise embodies onscreen. Even the anxieties about toy disposability and obsolescence that are central to *Toy Story 2*'s narrative are (re)played for laughs in the bloopers, as Woody's pull-string snaps from his body during one take of a scene (prompting Jessie the Cowgirl's uncontrollable laughter). In this way, bloopers can be viewed as part of a broader strategy—also part of the promotion of computer-animated films—to establish a greater divide between 'character' and 'actor.' Within the extradiegetic world of computer-animated films, actors are subject to casting calls and auditions (as with Lots-O'-Huggin' Bear and Ken's try-out for *Toy Story 3*) or, in the case of the first French computer-animated film *Kaena: The Prophecy*, 'interviewed' to discuss the demands of screen acting. In a hidden bonus feature contained on its DVD release, the computer-animated cast of *Final Fantasy: The Spirits Within* were even depicted in a choreographed dance routine to Michael Jackson's 1983 song "Thriller." This musical sequence contributes to the playful fiction that these are actors able at any moment to play "against type."

At the core of the blooper compilation, then, is an emphasis upon disparate conceptions of multiplicity: the many performative spaces and sets (including a division between offscreen and onscreen spaces within a Luxo world), the numerous filmmaking personnel usually veiled from view but suddenly revealed, and of various 'takes' ruined by malapropisms, laughter, injury and accident. Computer-animated films invert the principles of "deconstructive" animation by playing with the terms of their origination, dismantling their illusionist activity by making false claims about their relation to live-

action cinema. Marie-Laure Ryan suggests that beyond the postmodern fascination with self-reflexivity, self-reflexive devices "could also be a response to the curiosity aroused by the development of a new medium."[144] To affirm the terms of its difference, the computer-animated film is involved, I argue, in a highly creative play with the novelty of its screen spaces, employing a type of comedy that constantly turns back on itself to contemplate the new computer-animated worlds that have been created.

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Conclusion: Satisfying the Spirit of Adventure

The Future of a Genre

> Just as the mixed reception of the eighteenth-century novel reflected anxieties about the then emerging literate and affluent middle class, so the charge of illegitimacy, so often lodged against 'kidult' or 'kiddult' fiction in the early twenty-first century reveals discomfort over the way child and adult cultures are clashing, intersecting in our own time.
> ----- Rachel Falconer, *The Crossover Novel: Contemporary Children's Fiction and Its Adult Readership*

> Goodnight Agnes. Never get older.
> ----- Gru, *Despicable Me 2*

Given that generic systems are an evolving, fluid grouping of elements governed by broader patterns of sameness and difference, reiteration and variance, it is not possible to predict the scope or even lifespan of any film genre. The formal features presented in this dissertation certainly do not exhaust the description and theorisation of the computer-animated film's own lively generic repertoire. As more films are produced by the global animation industry and cumulatively added to the genre, its textual vocabulary is more than likely to become susceptible to mutation. The generic features of future computer-animated films may no longer be derived from those examples that preceded it. But it has not been the purpose of this dissertation to predict the future of computer-animated films, or to assign them dramatic points of departure ahead of time. Rather, the journey narrative, devices of intertextuality, anthropomorphism, the creative treatment of junk, the vocal performances by stars and children, and these films' brand of deconstructive humour, are all features that account for the computer-animated film's 'story so far.' By reflecting back upon a group of films that had yet to be quantified or qualified as a film genre, this dissertation sought to demonstrate that "computer-animated film" is a name that can be given to a specific type of film.

Studying multiple computer-animated films as a genre brings into relief fresh associations between them, and invites new readings rooted in the identification of an

altogether alternate set of criteria. In the example of Walt Disney's recent critically-acclaimed *Frozen*, the film's formal currency is, to an extent, determined by the consistent taxonomy and coherent patterns of features regularly attributed to the Disney formula. But additionally—and perhaps even more significantly—*Frozen* is heavily informed by its *other* identity as a computer-animated film. It mobilises assumptions around its recognisable Disney identity, *and at the same time* fulfils the pleasures expected and anticipated of a computer-animated film. The attraction of computer-animated films thus lies in their employment of diverse modes of address and appeal to different types of spectatorial knowledge. As Rick Altman argues, genres are historically grounded in that they "serve diverse groups diversely" and "have multiple conflicting audiences."[1] Further to their sustained intertextual regime and cinephilic tendencies, then, computer-animated films provide multiple viewers with shifting categories of interpretation. Spectators schooled in the broader machinations of the computer-animated film may prove better equipped to judge how/if/whether certain criteria are (to be) fulfilled. In other cases, new generic allegiances may be forged based upon pleasures located in the simple repetition, consistency and variation of formal features within and without the genre.

Despite genre criticism's abilities to afford greater intelligibility to the computer-animated film, their generic classification should not be viewed as the end point of critical discussion. It ought, rather, to pave the way for closer, more rigorously formalist approaches that are receptive to instances when computer-animated films deviate from, or simply push at the boundaries of, their generic contract. But the treatment of computer-animated films as a genre might also interrogate the wider practice and process of genre criticism itself. Genre analysis positions the institutionally defined corpus of "computer-animated films" to further analysis at the level of formal structure. To examine the genericity of computer-animated films is to position industry,

technology and textuality in relation to each other, guiding us towards what filmmakers may conceive of when they set out to produce a computer-animated film, *and* what audiences might expect of computer-animated films more broadly. Genre criticism also operates as a complement and counterpoint to analysis of the signature style of individual studios, including those smaller cycles and franchises associated with particular animation facilities. The popular and critical debates that emerged around the releases of *Brave* and *Wreck-It Ralph,* for example, suggest that the rhetorical boundary separating the new, post-2006 merger "Disney/Pixar" has been eradicated. For several reviewers, the fairytale Princess narrative of Pixar's *Brave* bore the imprint of the familiar Disney formula. But rather than replicating the predictable content expected of a Disney animated feature film, Disney's own *Wreck-It Ralph* inversely behaved like a Pixar film in its portrayal of the secret life of videogame characters. This exchange of narrative and thematic content—prompted by the conjunction of Disney and Pixar—implies that certain definable features and pre-sold pleasures are attributable (and recognised by critics and audiences as belonging) to specific studios. This permits a studio like Pixar to be identified, in Jerome Christensen's words, "not [by] what it is but [by] what it does," and to be made visible through criteria "which thereby constitute not its identity but its value."[2] But the proprietary textual features of individual companies are not the only explanation for the existence of a set of commonalities between computer-animated films.

The wider genericity of computer-animated films can be identified across the rich diversity of companies and facilities, despite clear distinctions between them when it comes to design policies, formal preferences and ideological positions. The examination of computer-animated films as a genre preserves and identifies such studio specificities, without assuming in advance how they contribute to the critical and popular formulation of common meanings. This is particularly significant given that the

familiar studio name and the textual features of the film itself may not always coincide with expectations held by critics and audiences (something that the responses to *Brave* and *Wreck-It Ralph* make clear). Genre criticism enables an investigation into the kinds of relationships that exist between individual studios and broader generic criteria. Do, for instance, certain textual features of the genre belong overwhelmingly to one studio? Is a Luxo world more likely to describe the world of a Pixar computer-animated film than a film by another company? Are DreamWorks' digital environments governed by other formal conventions? To what extent does the Luxo label define the computer-animated theatrical short films now released by Disney as part of their exhibition packages? Focus on the institutional context of computer-animated film production foregrounds connections with and between surrounding texts, adding another important point of engagement with how computer-animated films—and their dense network of meanings—interact with their all-digital neighbours.

To return to the example of *Wreck-It Ralph*, the film is simultaneously the 52nd entry in Walt Disney's animated feature-film canon *and* a computer-animated film. On the one hand, the film promotes the familiar, standardised Disney values of innocence and optimism, offering audiences escapist fantasy through an enchanting magical narrative.[3] However, a critical approach to *Wreck-It Ralph* that examines the film as belonging to a wider computer-animated film genre allows its narrative, characters, and other formal features to be seen in more complex ways. For example, the relationship between child protagonist (and videogame "glitch") Vanellope von Schweetz and the lonely Ralph himself is sharply defined as one of surrogate father/daughter. Ralph's parenthood-by-proxy in *Wreck-It Ralph* exhibits the computer-animated film genre's lack of investment in the conventional structure of the nuclear family (discussed in "Chapter One"). Yet childhood experience is also the common ground between Vanellope and Ralph, who is no less childlike than his surrogate daughter, despite his

seemingly advanced age ("Thirty years I've been doing this") and imposing, impossible physical appearance. Ralph is determined, enthusiastic, exuberant, immature and tempestuous, trading childish insults with Vanellope (such as "Booger Brain" and "Fart Feathers") as part of their growing rapport and mutual respect. In *Wreck-It Ralph*, Ralph's erratic, juvenile behaviour stretches the terms of the adult/child distinction. As Vanellope comments when goading her sulking father figure: "Enjoy your little tantrum, diaper baby?" To put this another way, *Wreck-It Ralph* becomes less recognisable as a familiar Disney film when analysed through its membership to a computer-animated film genre. In particular, the relationship between Vanellope and Ralph, which lies at the heart of the film, is aligned with what computer-animated film narratives more generally have to say about the culture of childhood.

Computer-animated films convey a notable fascination with the vicissitudes and values of childhood. There has been a spate of recent film scholarship interested in bringing into greater relief the multiple functions of the child within the context of cinema. These have ranged from investments in the child as pedagogical subjects primed to be socialised; the figure of the child as a potent and powerful narrative agent; the rise of the "teenpic" genre; and the wider politics underlying their ambiguous status as performers (as opposed to 'actors').[4] However, the narratives of computer-animated films also invite a consideration of what it means to be a child. Judith Halberstam has argued that contemporary animation narratives are intended to closely match the new rhythms of childishness by celebrating those values associated with childlike activity. In the late 1970s, critics lamented such "juvenilization" of Hollywood cinema, a tendency attributed to a cycle of blockbuster films that included *Jaws* (1975) and *Star Wars* (1977). The criticisms levelled at these films emerged from how, as James Chapman puts it, "narrative complexity and psychological depth are sacrificed for size, spectacle and special effects."[5] More recently, British-born director Danny Boyle has described

the "Pixarification" of contemporary cinema, suggesting that Pixar, like *Star Wars*, is killing off challenging adult movies that address adult violence, sexuality and dilemmas.[6]

Computer-animated films do not retreat from things that matter. Their narratives engage with contemporary culture by speaking to the real world experience of a child. Children, Halberstam writes, "stumble, bumble, fail, fall, hurt; they are mired in difference, not in control of their bodies, not in charge of their lives."[7] Each of this dissertation's chapters lays the groundwork for thinking about how computer-animated films trade in a host of playfully childlike things. "Chapter Two" registers these connections through how computer-animated films cater to the child's faculties of imagination in their treatment of junk, rubbish and discarded objects. But childlike themes, behaviours and pleasures are encountered at various other interstices across the genre. The journey narrative, the enlivened anthropomorph and the metaleptic transgressions of diegetic worlds normally held distinct, all appeal to a childlike "spirit of adventure," to quote the name of Charles Muntz's airship in Pixar's *Up*. Children love to explore (their spaces, their bodies, their boundaries), and these devices are a path towards the child's escape of parental control, enforced duty and regulated lives. Exploration in the computer-animated film is about going along for the experience, and surmounting injury or obstacle, rather than becoming preoccupied with the certainty of glory or success. Kate Crawford has, however, raised questions about the treatment of normative adulthood offered in Halberstam's account of animated features, and in particular the *prizing* of childishness by *prising* it apart from those values associated with being an 'adult.' Crawford argues that the separation of adolescents and adults from children remains far from secure, and that we should not accept "too readily this child/adult distinction."[8] Portmanteau terms such as "kidult," "manchild" and "adultescents" all point to a degree of cross-generational pollination and age inversion.[9]

Such shifts in socially-prescribed roles are not irrefutable signs of a culture in crisis through the collapse of orthodox adulthood. Rather, the new childishness of adults serves, as Crawford argues, to express the relocation (rather than diminishment) of certain adultlike aspirations, and to upturn "traditional temporalities of adulthood."[10] Computer-animated films emerge as a particular kind of response to such moments of social and cultural change. They are attuned, and arguably contribute, to shifting notions of the child by consciously straining the boundaries of normative adulthood.

Animation, of course, has often been perceived as something of a childish medium. Tom Sito explains how "cartoonists, by the nature of what they do, have to maintain a bit of their inner child to create for the child in all of us."[11] Computer-animated films are replete with adult figures increasingly amenable to similar forms of childlike conduct. Narratives reveal their fallibilities and frailties, anxieties and weaknesses in ways that indicate adults have not (fully) set aside their childish ways. Adults are typically likened to children through the eruption of certain behavioural patterns. Silly and idiotic, puerile and preposterous, irresponsible and immature, the conventional shape and definition of adult characters is washed away "in a flood of childlike jubilation."[12] Parents are loving and protective but impatient and irritable. As Louis Rothschild states, Marlin (*Finding Nemo*) is a father "who like a child, continues to encounter opportunities to develop and grow."[13] Adults are shown to be openly technophobic and humorously inept when working any digital device (*Cloudy with a Chance of Meatballs*). They may resort to childish pranks and games (*Hotel Transylvania*), or display awkward behaviour when confronted with a love interest (*Ratatouille, Rio*). Extended families are often bizarrely impulsive and eccentric too (*Meet the Robinsons*), and adult humans, more generally, are distinguished by their laughable shape and ungainly movements (*Wall-E*), diminutive stature (Lord Farquaad in *Shrek*) or as being selfish, vain and in childlike thrall to a doting mother (*Shrek 2*'s

Prince Charming). Even superheroes are lazy and languid (*Megamind*), often excitable but petulant in their childish rivalries (*Despicable Me*), and in some cases appear insecure and socially stunted (*The Incredibles*). Other adults are destructively mischievous, preferring to destroy rather than create by smashing and tearing their way through the world (*Wreck-It Ralph*). The elderly Granny Puckett in *Hoodwinked!* is revealed as a young-at-heart extreme sports enthusiast, who engages in the danger of "dumb thrills."[14] Furthermore, multiple computer-animated films (*Monsters, Inc.*, *Chicken Little*, *Surf's Up*, *Despicable Me*, *Wreck-It Ralph* and *Up*) are centred upon child/adult interaction, playing with divisions of 'young' and 'old' to suggest not their autonomy from each other, but their connectedness and interchangeable nature.

Childlikeness can also be positively re-discovered by adults in acts of narrative redemption. When acerbic food critic Anton Ego (*Ratatouille*) samples the film's eponymous culinary dish, a childhood flashback—portrayed in warm, comforting hues—disarms his otherwise uncompromising demeanour. His skeletal body softens, his stern and morbidly pale face suddenly relaxes. Childlikeness for Anton marks a return to life, a nostalgic state permitting his salvation and reformation from villainy. He even relinquishes his pen, shedding his prior vocation as critic, as he is caught up in the rush of childhood memories. For those youthful characters that ascend to adulthood, the retention of the inner child is paramount to the prolonging of childlike attitudes into adult years. Toy owner Andy cannot resist the lure of childlike activity during the climax of *Toy Story 3*. Andy's sudden re-engagement of his childish ways invigorates both the sentient toys' true function and highest point of living, and his own childlike exuberance (which he will reluctantly leave behind at the film's conclusion). Finally in *Frozen*, the celebration of sisterhood between infant siblings Elsa and Anna is replaced by a more "frosty" kinship as the characters reach the cusp of adulthood. Wrestling with their traumatic upbringing—in which Elsa's cryokinetic powers accidentally wound the

young Anna—the teenage sisters progressively lose their childish enthusiasms. Anna has her childhood memories magically wiped while Elsa becomes a recluse. The drama of *Frozen*'s narrative trajectory hinges, for audiences, upon whether or not the frenzy and playfulness of the sisters' childhood relationship will finally be rediscovered. Elsa's adage to "Conceal it, don't feel it. Don't let it show" therefore refers to more than just her clandestine sorcery but to her prior childish energies, which have similarly become hidden from her sister and the townsfolk of Arendelle. In computer-animated films, the child/adult distinction is thus not fixed or "frozen" but flowing; figuring, instead, as generational continuity offering new possibilities for their collision. In *Robots*, the identities of child/adult become even more interchangeable through the body parts used by the humanoids that instantly 'age' the wearer. In contemporary animated feature films, gender is, as Halberstam points out, often fluid and amorphous. But age is no less ambiguous, and can be emptied of its meaningful content within the construction of what she calls an "assembled self."[15] The brief sequence in *Robots* when a young Rodney Copperbottom struggles to adjust to his oversized "big boy" metallic torso—despite retaining his same youthful face and legs—places the child/adult distinction in more visually comic terms. Like Andy's childish exploits in *Toy Story 3*, *Robots* informs spectators that to be (or to embody) an adult is to engage in a culturally-determined act of improvisation, and that an outwardly adult body may conceal a more childlike disposition.

Computer-animated films offer future opportunity to examine how, as a genre, they mobilise questions about the cultural experience and significance of childhood, and redefinitions of adulthood. For adult spectators, the childlike behaviour of adult figures (and, by extension, child characters that are increasingly precocious, assertive and adept) may not seem obviously and immediately attractive. Nevertheless, computer-animated films embrace such personality disorders, invested in the joy of youthful

pleasures by encouraging adults to accept their childlike ways; just as such attributes and enthusiasms are prized of the childlike animator. Computer-animated film narratives judge only those elder statesmen who take it all too seriously and who, unlike Anton Ego, are not softened by contact with childlike feelings. In fact, Anton's return to childhood in *Ratatouille* may function as a model for the nostalgic attraction of computer-animated films for the adult spectator more broadly. Rothschild, for instance, describes experiencing a "transgenerational moment of remembering as a son while simultaneously acting and feeling as a father" when watching *Finding Nemo*.[16] Spectatorial pleasure lies, then, in the sudden, momentary confusion of child and adult identities. Moreover, as the child/adult hybrid figure of Rodney in *Robots* makes clear, learning such lessons of self-change always involve the necessary 'juggling' of child/adult attributes as part of growing up. Philosopher Paolo Virno has suggested that it is time to "reactivate childhood," to be subversive and playful and go beyond the imperious adult figure.[17] Computer-animated films perform such actions, drawing upon a generational continuity to carve a space for the contemporary cultural figure of the childlike adult. By prolonging childhood by restoring it to adults, computer-animated films stage a meeting of adult and child that inscribes adulthood with the positivity of youth.

The treatment of computer-animated films *as a genre* permits a fresh set of formal attributes to be identified, but also a more complex analysis of their familiar pleasures to be undertaken. Far from simply reproducing outworn family values, computer-animated films' often hybrid, 'childlike' characters challenge normative conceptions of ossified, uninspired adulthood. These are narratives that illuminate the precarious path marking the ascension from childhood to adulthood today, and they do so through a series of repeating formal features. To experience and enjoy a computer-

animated film through this particular, *readily recognised set of features* is to actively contribute to their meaningful constitution as a genre.

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[1] Rick Altman, *Film/Genre* (London: BFI Publishing, 1999), 207-8.
[2] Jerome Christensen, *America's Corporate Art: The Studio Authorship of Hollywood Motion Pictures* (California: Stanford University Press, 2012), 327.
[3] Janet Wasko, *Understanding Disney: The Manufacture of Fantasy* (Cambridge: Polity, 2001), 112-19.
[4] These include, but are not limited to, Thomas Patrick Doherty, *Teenagers and Teenpics: Juvenilization of American Movies* (Philadelphia: Temple University Press, 2002); Emma Wilson, *Cinema's Missing Children* (London: Wallflower Press, 2003); Vicky Lebeau, *Childhood and Cinema* (London: Reaktion Books, 2008) and Karen Lury, *The Child in Film: Tears, Fears and Fairy Tales* (London: I.B. Tauris, 2010).
[5] James Chapman, *Cinemas of the World: Film and Society from 1895 to the Present* (London: Reaktion, 2003), 142.
[6] "Danny Boyle talks about the Pixarification of Movies," [n.d], video clip, accessed September 25, 2013, Youtube, http://www.youtube.com/watch?v=rz6W0h3r30k.
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[8] Kate Crawford, "Re-animating Adulthood," in *Queer and Subjugated Knowledges: Generating Subversive Imaginaries*, eds. Kerry H. Robinson and Cristyn Davies (Illinois: Bentham Books, 2012), 145.
[9] Crawford, "Re-animating Adulthood," 146.
[10] Ibid.
[11] Tom Sito, *Drawing the Line: The Untold Story of the Animation Unions from Bosko to Bart Simpson* (Kentucky: University Press of Kentucky, 2006), 46.
[12] Barry Langford, *Post-Classical Hollywood: Film Industry, Style and Ideology since 1945* (Edinburgh: Edinburgh University Press, 2010), 250.
[13] Louis Rothschild, "Finding a Father: Repetition, Difference, and Fantasy in *Finding Nemo*," in *Heterosexual Masculinities: Contemporary Perspectives from Psychoanalytic Gender Theory*, eds. Bruce Reiss and Robert Grossmark (London: Routledge, 2009), 224.
[14] See Elizabeth Parsons, "Animating Grandma: the indices of age and agency in contemporary children's films," *Journal of Aging, Humanities and the Arts* 1, no. 3-4 (2005): 221-29.
[15] Halberstam, *The Queer Art of Failure*, 46.
[16] Rothschild, "Finding a Father," 240.
[17] Paolo Virno, "Childhood and Critical Thought," *Grey Room* 21 (Fall 2005): 6-12.

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Appendix

Chapter One: Classifying Nemo

Fig. 1.1

Toy Story "hollows out" familiar Western iconography.

Fig 1.2

A disregard for fairytale storytelling in *Shrek*.

Fig. 1.3

Roddy St. James is accidentally "flushed away."

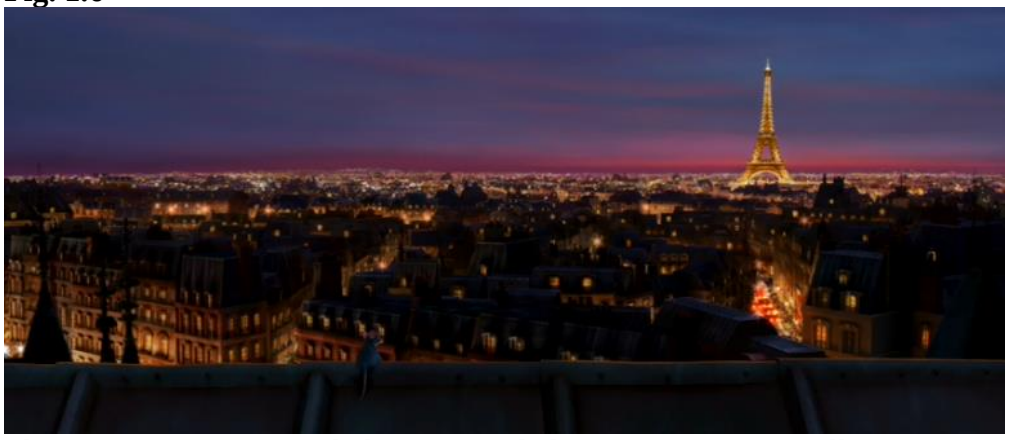
Fig 1.4

Woodland animals attempt to go "over the hedge."

Fig. 1.5 – a collective family unit

Madagascar expresses the values of group bonding and collective action.

Fig. 1.6



The sumptuous Parisien skyline is revealed to Remy in *Ratatouille*.

Fig. 1.7

Hergé's *ligne claire* drawing style is intertextually referenced in *The Adventures of Tintin: The Secret of the Unicorn*.

Fig. 1.8

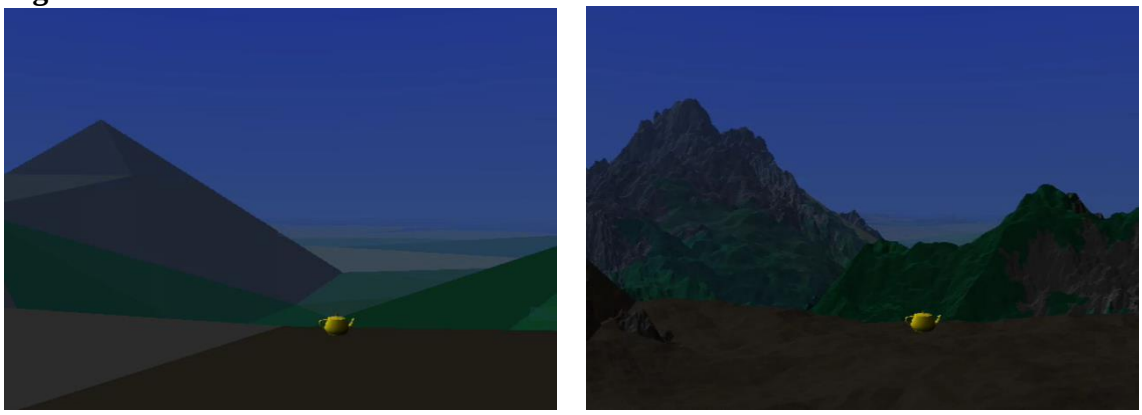
In *Flushed Away*, Roddy's cinephilic energy is exuberantly articulated as he slides past his DVD collection.

Fig. 1.9

Wall-E is captured in a cinephilic trance.

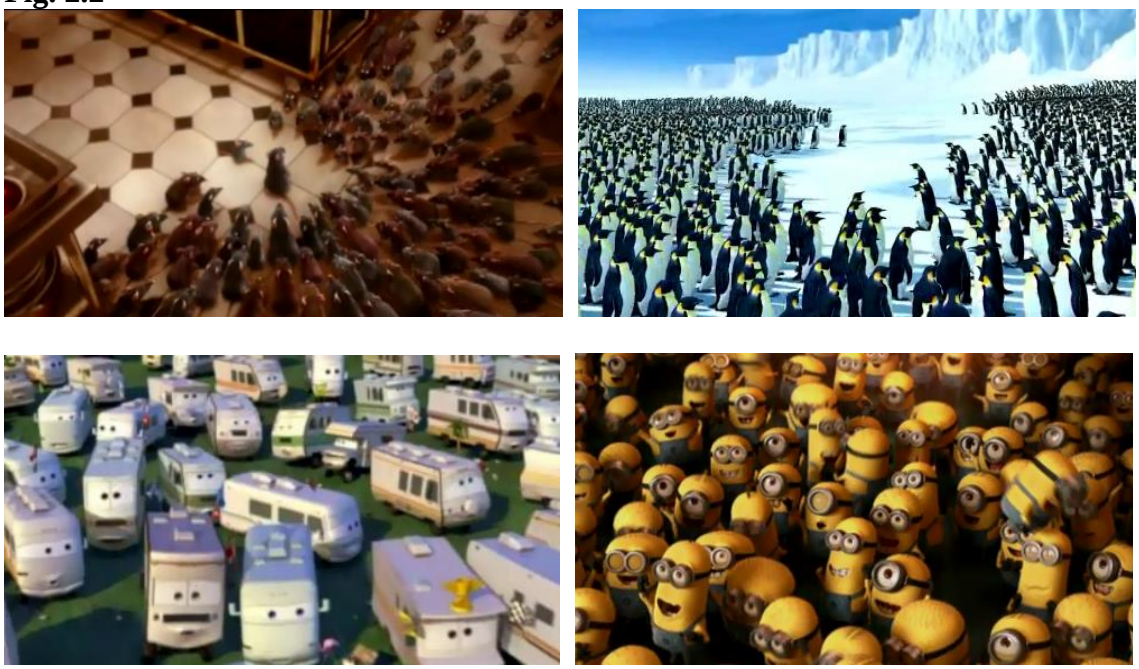
Chapter Two: Stepping into a Luxo world

Fig. 2.1



Fractal geometry builds the landscape of a Luxo world in Loren Carpenter's *Vol Libre*.

Fig. 2.2



(Clockwise from top left) The "digital multitude" fills the film frame in *Ratatouille*, *Happy Feet*, *Despicable Me* and *Cars*.

Fig. 2.3

The spectacle of the multitude in *Wall-E*.

Fig. 2.4

Monstrous and malevolent personification in *Monster House*.

Fig. 2.5

Remy the rodent/chef anthropomorph of *Ratatouille*.

Fig. 2.6

Bee Movie restructures the geography of its virtual space through Barry's point-of-view.

Fig. 2.7

The pleasures of anthropomorphic subjectivity in *Ratatouille*.

Fig. 2.8

The desired detritus of Insectopia in *Antz*.

Fig. 2.9

The "big city" of *A Bug's Life* recycles junk as insect architecture.

Fig. 2.10

Distinctions of worth and worth*less* are played out at the climax of *Toy Story 3*.

Fig. 2.11

Wall-E is stimulated into childlike acts of object substitution.

Chapter Three: Performing with Puppets

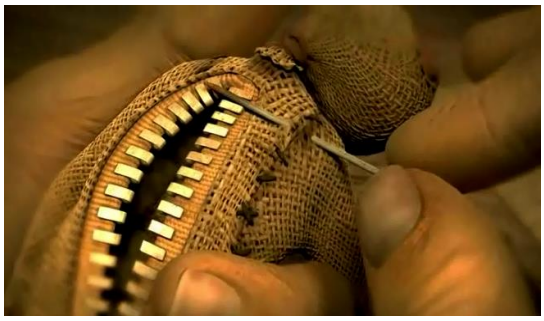
Fig. 3.1

Chef Linguini is controlled by rodent Remy in *Ratatouille*.

Fig 3.2

Toy Story 3 and the pleasures of puppet playtime.

Fig. 3.3



(Left to right) *Toy Story 2* and *9* use the "hand of the artist" to spotlight its puppet performers.

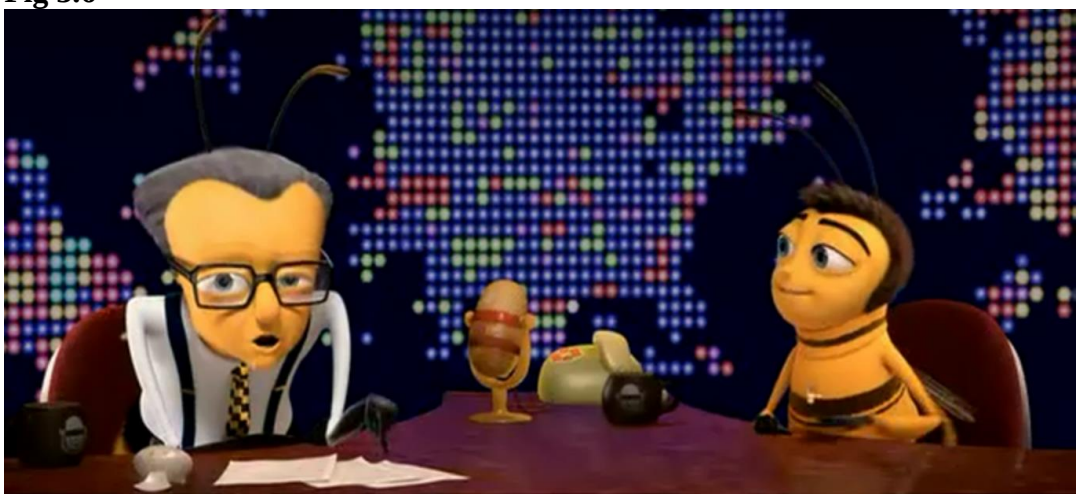
Fig. 3.4

Woody stares transfixed at the truthfulness of his puppet biology in *Toy Story 2*.

Fig. 3.5

The costumed performance of Linda and Tulio in *Rio* (left) evokes the animalistic play of Mowgli in *The Jungle Book* (right).

Fig 3.6



Bee Larry King (left) and anthropomorphic synchresis in *Bee Movie*.

Fig. 3.7

Frank Thomas and Ollie Johnston—two of Disney's famous "Nine Old Men" animators—appear in the final scenes of *The Incredibles*.

Fig. 3.8

The reveal of Lightning McQueen in *Cars*.

Fig. 3.9

The Peas-in-a-Pod toy is animated into "childhood" in *Toy Story 3*.

Fig. 3.10

In *Monsters, Inc.*, Boo's particular "jargon babbling" organises the virtual space.

Fig. 3.11

Sulley reacts to the "grain" of Boo's voice in the final shot of *Monsters, Inc.*

Chapter Four: From Wile.E to Wall-E

Fig 4.1

Oscar and Lenny quickly become "buddies" in *Shark Tale*.

Fig. 4.2

Mike Wazowski's stand-up routine in *Monsters, Inc.*

Fig. 4.3

(Clockwise from top left) *Despicable Me*, *Escape from Planet Earth*, *The Incredibles* and *Ratatouille* delight in youthful villainy.

Fig. 4.4

Buzz Lightyear remains “floored” by his inability to fly in *Toy Story*.

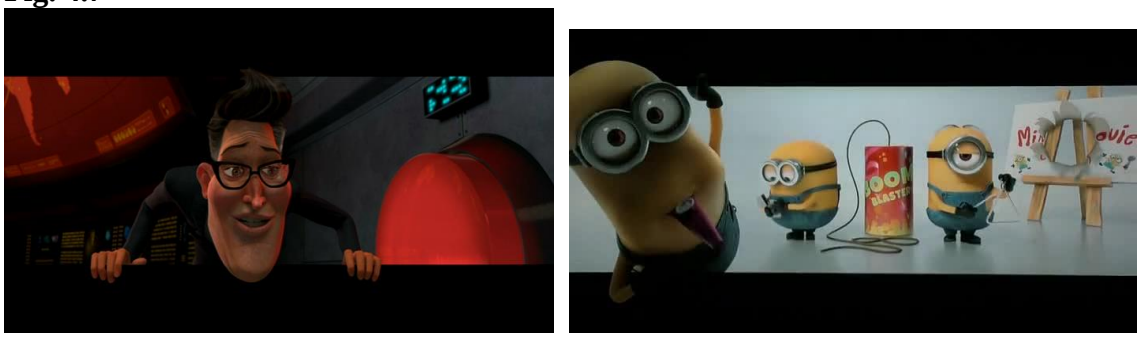
Fig. 4.5

The 8-bit computer graphic of *Wreck-It Ralph*’s logo.

Fig. 4.6

Cloudy with a Chance of Meatballs disrupts the stability of its extradiegetic material.

Fig. 4.7

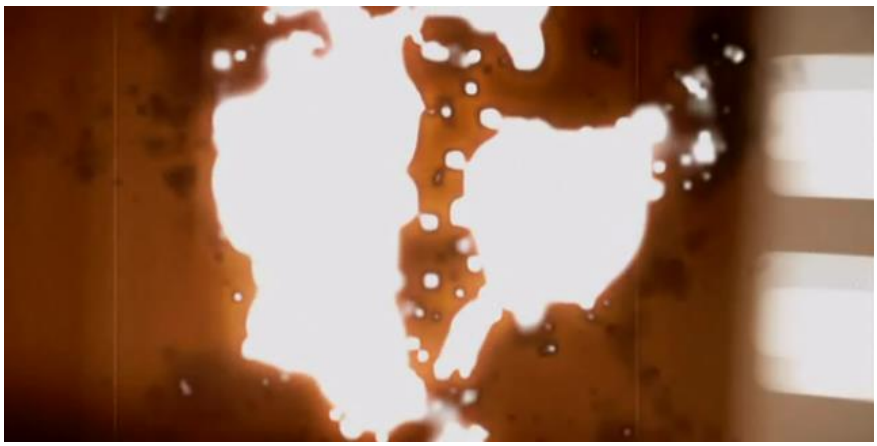


The matte bars are primed for comedy in *Monsters vs. Aliens* and *Despicable Me 2*.

Fig. 4.8

Cars subjects its virtual camera to unexpected character assault.

Fig. 4.9



The fragility of the celluloid strip in *Monsters vs. Aliens* (top) and *Despicable Me* (bottom).

Fig. 4.10

The "camera" is toppled over to reveal the camera crew in *A Bug's Life* (top), while the clapperboard marks the start of the bloopers in *Roadside Romeo* (bottom).